966. f. 24
3

THE TIMBER-TREE IMPROVED;
OR, THE
Beſt Practical Methods
OF
Improving different LANDS
WITH
PROPER TIMBER,
AND
Thoſe FRUIT-TREES whoſe Woods make the moſt profitable Returns to their Owners:

According to the Neweſt Inventions, by the Plough, Harrow, and other Methods moſt approved of.

By *WILLIAM ELLIS*,
Of *Little Gaddeſden*, near *Hemſtead* in *Hertfordſhire*.

LONDON:
Printed for the AUTHOR, and Sold by J. and J. FOX, at
the *Half-Moon* and *Seven-Stars*, in *Weſtminſter-Hall*;
and at their Shop at *Tunbridge-Wells*, during the Summer Seaſon; Sold alſo by E. WITHERS, in *Fleet-Street*,
and T. COOPER in *Pater-Noſter-Row*. 1738.
[Price 2 *s.* ſtitch'd.]

THE PREFACE.

BRITISH MUSEUM

THE Subject of Foreſt and other Trees I am very ſenſible has been ſet forth by able Hands: But as my Reſidence is much amongſt them, and I employ Workmen in their Management, in a Country moſt famous for ſuch Artificers, I may have come at ſome uſeful Secrets which others have miſſed: Beſides which, I yearly travel hundreds of Miles, on Account of the ſeveral Sorts of Books I have, and intend to publiſh; whereby I have an Opportunity of acquainting myſelf with the Methods uſed in ſeveral different Countries: And thereby am enabled to communicate new and practical Methods relating to the Improvement of this profitable Art: An Art, which has hitherto greatly ſuffer'd by Authors being unqualified with the Nature of the Plough, &c. which certainly are the beſt In-

THE

PREFACE.

THE Subject of Foreſt and other Trees I am very ſenſible has been ſet forth by able Hands: But as my Reſidence is much amongſt them, and I employ Workmen in their Management, in a Country moſt famous for ſuch Artificers, I may have come by ſome uſeful Secrets which others have miſſed: Beſides which, I yearly travel hundreds of Miles, on Account of the ſeveral Sorts of Books, I have, and intend to publiſh; whereby I have an Opportunity of acquainting myſelf with the Methods uſed in ſeveral different Counties: And thereby am enabled to communicate new and practical Methods relating to the Improvement of this profitable Art: An Art, which has hitherto greatly ſuffer'd by Authors being unacquainted with the Nature of the Plough, &c. which certainly are the beſt Inſtru-

ſtruments for propagating the Seeds of Timber, and ſome Sorts of Fruit Trees, and will thus ſo eſtabliſh their firſt Principles, according to their own genuine natural Tendency, as will ſurely give them every Year a ſuperiour Advantage in the Growth and Goodneſs of their Wood, even to the very Time they are cut down. A Matter of ſuch Conſequence, that an Acre of Land ſo planted has been worth ſeveral which have ſuffered by an Error in their Beginning or Foundation.

THE TABLE OF CONTENTS.

THE *Improvement of the* Oak. Page 1

Remarks on the preceding Method. 6

A Second Way. 9

Remarks on the ſame. 10

A Third Way. 14

Remarks on the ſame. 15

A Fourth Way. ibid.

Remarks on the ſame. 16

A Fifth Way. 18

Remarks on the ſame. 19

A Sixth Way. ibid.

Remarks on the ſame. 20

A Seventh Way. 23

The Nature and Improvement of the Beech. 25

How to get its Sap out. 27

A Second Way. 28

A Third Way. 29

Of the Management of the Beech *in Timber Uſes.* 30

Of the Seed and Maſt of the Beech. 32

To raiſe a Beech Wood *from Seeds or Sets.* 33

Tranſplanting large Beeches. 38

Obſervations on Tranſplanting. 39

To raiſe a Beech *Hedge by Seeds or Sets.* 40

The

The Nature and Improvement of the Elm. 44
The Nature and Improvement of the Witch Elm. 52
The Nature and Improvement of the Aſh. ibid.
Of the Pollard Aſh. 56
Of Aſhen Stems. 57
Of the Standard Aſh. 58
The Nature and Improvement of the Walnut. 60
The Nature and Improvement of the Black Cherry. 64
Reaſons humbly offer'd for the common Uſe of the Black Cherry. 65
Of the Nature and Improvement of the Hornbean *or* Hornbeech. 71
Of the Nature and Improvement of the Lime Tree. 73
The Nature and Improvement of the Horſe Cheſnut. 75
The Nature and Improvement of the Sweet Cheſnut. 77
The Nature and Improvement of the Maple. 79
The Nature and Improvement of the Hazel. 81
The Nature and Improvement of the Firr Tree. 83
The Nature and Improvement of the Sycamore. 87
The Nature and Improvement of the Sallow. 88
Another Way. 89
The Nature and Improvement of the Aps. 96
The Nature and Improvement of Whitewood. 98
The Nature and Improvement of the Poplar *and* Abel. 101
The Nature and Improvement of the Alder. 103
The Nature and Improvement of the Withy *and* Willow. 105
The Improvement of Oziers. 106
The Nature and Improvement of White Elder. 107
The Nature and Improvement of the Pear Tree. 110

BOOKS Printed for, and Sold by *J.* and *J. Fox*, at the *Half Mooon* and *Seven Stars*, in *Weſtminſter Hall*; and at their Shop at *Tunbridge-Wells*.

I. THE Trader's Pocket Companion; containing, correct Tables ready calculated, of univerſal Uſe to Merchants, Shopkeepers, Mechanicks, and to all other Perſons in any Kind of Buſineſs.

A Table calculated to ſhew at one View, the Value of any Quantity of Goods, Wares, or Merchandiſe, at any Price, adapted to all Capacities; and its particular, general, and extenſive Uſe, ſhewn by many and various Examples.

A Table of univerſal Uſe, demonſtrated, by the Solution of various Queſtions in Multiplication, Diviſion, Reduction, Merchandiſing, Meaſuring Superficies and Solids, Gauging, Surveying, *&c.*

Twenty-five Geometrical Problems, with their aſſigned Figures, applied to Meaſuring, Gauging, Surveying, *&c.*

A Table calculated to diſcover at one View, the different Diſcompts upon any of the Branches of the Cuſtoms, upon imported Goods, from one Farthing, and upwards.

A Table for the more eaſy reckoning Salaries or Wages, by diſcovering at one View, what any yearly Salary, Wages, or Eſtate amounts to, by the Month, Week, or Day; and contrary, what any daily Salary amounts to by the Week, Month, or Year.

A Table for caſting up Intereſt at any Rate, for any Number of Days. The Rates and Fares of Coachmen, Carmen, and Watermen, with their Rules and Reſtrictions.

——— *Si quid noviſti rectius iſtis,*
Candidus imperti, ſi non, his utere mecum. HOR.

By JOHN HEWITT, Accomptant; Author of the Tables of Simple Intereſt, Corn Dealer's Aſſiſtant, *&c.*

N. B. Not one of theſe Books will be warranted to be correct, but what is ſigned on the Back of the Title by me
Price 1 *s.* 6 *d.* in Sheep; 2 *s.* in Calf. J. HEWITT.

II. A New French Grammar, Teaching a Perſon of an ordinary Capacity, without the Help of a Maſter, to Read, Speak, and Write that Tongue, in leſs than half the uſual Time, in an entire, new, and eaſy Method never before attempted. By J. E. Tandon. Teacher of the *French* Tongue at her Grace the Dutcheſs of *Marlborough*'s.

The Whole Reviſed, and Corrected by *R. Dugud*, Student of the Univerſities of *Paris* and *Ratisbon*. Price 2 *s*.

N. B. In Order to give the Publick an Idea of the Uſefulneſs of this Grammar, not only to thoſe who are willing to learn the *French* Tongue, but alſo to any Perſon who formerly learnt it, and ſince may have partly forgot it; the following Lines are inſerted as a Specimen of the Whole.

1. *The French as written and ſpelt.*	2. The Engliſh.	3. *The French as pronounced.*
le Firmament,	*the Firmament,*	le Firmamang.
le Lever du Soleil,	*the Sun riſing,*	le Levè du Soleil.
le Chant,	*Singing,*	le Shang.
les Maiſons,	*the Houſes,*	le Mèzong.
l'Eau,	*the Water,*	l'O.

III. A Treatiſe of Eccleſiaſtical Benefices and Revenues, containing among other very curious Particulars; 1. That the Church hath been taught the Manner of poſſeſſing and adminiſtring her Temporals by *Jeſus Chriſt*. 2. That Eccleſiaſticks become too greedy in acquiring Eſtates, and that their Avarice ought to be reſtrained. 3. That the Biſhops becoming Judges in Civil Affairs, neglect to teach the Doctrine of *Chriſt*. 4. The Original of Tythes, whether of Divine or Human Right. 5. The Original Government of the Church Democratical. 6. Deteſtable Popes and prophane Biſhops deſcrib'd. 7. The Uſurpations of ſeveral Biſhops upon the Temporalities of Princes. 8. The Original of Commendams, *&c.* Written Originally in *Italian*, by the Learned Father *Paul*, Author of the Hiſtory of the Council of *Trent*. Tranſlated by *Tobias Jenkins*, Eſq; late Member of Parliament, and Lord Mayor of *York*. And illuſtrated with Notes by him, and from the ingenious *Amelot de la Houſſaye*; the third Edition. To which isprefix'd, never before printed, the Life of Father *Paul*, by Mr. *Lockman*, and a Preface giving an Account of the Work. Price 4 *s*, 6 *d*.

THE TIMBER-TREE IMPROVED, &c.

CHAP. I.

The Nature and Improvement of the OAK.

THE Oak, of all other Trees claims the Priority of Regard in this Nation for its many tranſcendent Uſes; but above all for Ship-building, which, indeed, are the Walls and chief Fortifications of this Kingdom. And however remiſs and indolent we have been of late Years in cutting down, and not planting again, this moſt excellent Timber, as may be ſeen in *Wing* Park, and many other Places with an Eye of Pity; yet of late, through (I preſume) the ſeveral printed *Items*, publiſhed by Men under a Concern for their Country's good; ſome of our diſcerning, able Men have received ſuch Convictions, as have provoked them to ſow and ſet Acorns, or plant young Oaks in many Acres of Ground. A ſingular Example of which, in theſe Parts, is the moſt noble Duke of *Bridgwater*, who is certainly one of the greateſt Conſervators of Wood in this Kingdom.

The Oak agrees with almoſt all Sorts of Soils, but grows beſt in the richeſt Grounds, and is the longeſt liv'd Tree of all others; yet is its Date determined ſhorter or longer, as the Nature of the Earth is wherein it grows: In Clays it is more tedious, as its Roots obtain their Food with more Difficulty; but then its Wood is moſt ſerviceable.

In ſandy, chalky, or gravelly Grounds, they grow much ſooner, from the light, looſe Texture of theſe Earths, that gives an eaſy Progreſs to the Oak's Roots, which brings on its Maturity ſooner than the ſtiff, cold Clays will, and therefore they are never ſo large in this looſe Soil, as in the more cloſe; but then its Grain is clearer and ſmoother. This Tree obtains a firmer Footing in the Ground generally than any elſe; for it's rarely found that an Oak is without a deep tap Root; this in a rich Soil has been known in thirty Years to get a Foot Diameter in Body, and when it is arrived to this Bulk, it then thrives much faſter, by reaſon of its larger Body and Head, which now is capable of being ſhaken by the high Winds, that ſtrains its Roots and let in the Benefits of the ſeveral Sorts of Weather; and therefore it is a Sort of Rapine to deſtroy ſuch young thriving Trees, that get at thirty or forty Years of Age, more in one Year, than they did when younger in ſeveral; eſpecially if at firſt they took Root towards the Top of the Ground; for, in my Obſervations, I ſeldom ever ſaw a thriving Oak, whoſe Roots in the Beginning took deep in the Earth; and therefore I think myſelf more than ordinarily obliged to enter a *Caveat* in this Place, againſt the fatal, but too common, Practice of planting, ſowing, and ſetting too deep, which ſurely retard the Oak's Growth, and hinder its Magnitude: Whereas this, above all other Trees, ought to enjoy all the propitious Benefits that can be given it, on Account at beſt, of its tedious Growth, before it is rightly fit for Ship or other Buildings.

I have two Sorts of Oaks growing in my Grounds, which I call the ſhort ſpreading Oak, and the tall, upright, taper Oak, both which grow very well, if planted at firſt high enough, whereby their Roots may be obliged to ſeek their Food from the Top and beſt Part of the Ground: And here, if any is ſo curious to prefer Plantations of one Sort before the other, it is only ſowing or ſetting the largeſt Acorns of the different Trees; or if there are Walks or Rows to be made of them, the Diſtance in this Reſpect muſt be allowed accordingly; for the ſpread Oak requires as well fifty or ſixty Foot aſunder, as the other forty or fifty; and this Diſtance will very well admit of the Growth of Underwood, that may be fell'd at every twelve Years End to great Profit, eſpecially if it be Sallow or Aſh; theſe two being the moſt advantageous of all others for their quick Growth, and the many Uſes their ſtraight Poles may be converted to, as hereafter I ſhall obſerve when I write of Underwood: Or if the Sallow alone is planted altogether with the Oak, it will be found moſt agreeable, becauſe this Root runs not very deep nor broad, which will give leave to the Oak to make his ſlow Pace with little Interruption from the quick Growth of this moſt profitable Underwood: And therefore it is, that neither Beech, Oak, or any other ſtandard Tree, ſhould be permitted to grow in Company with the Oak, becauſe of the great Prejudice that may in Time enſue from their quicker mounting into the Air; and then it's likely the Oak will ſuffer in its low Head, by the Drip of their taller ones; which Majority, wherever it happens, they will be ſure to maintain, from the great Advantages they enjoy, by the Sun, Air, Rain, and Dews, that ever will be moſt propitious to the higheſt

Trees, by the free and uninterrupted Extention they meet with, to receive the Sun's Attraction and nouriſhing Heats on all Sides of their ſpreading Heads: That then will cauſe them to perſpire, and ſweat out their crude and noxious Juices in the Day Time, which they imbibe and drink in by Nights, through the many Pores of their ſpungy Barks, Leaves, and Fruit; and it is thereby that Trees ſubſiſt in a true Regimen of Health and Proſperity, while the low-headed, under-line one, grows moſſy, ſcabby, knotty, and ſtunted, for Want of a free Enjoyment of thoſe ſalubrious Benefits. And this grand Conveniency not only belongs to the Oak, but, indeed, all Sorts of Trees whatſoever: And it is here that the Vegetable is obliged to receive and take in by Nights and foggy Days, thoſe peſtiferous and inſanous Particles of the Air, which are great Enemies of their Life, and would likely end in their Deſtruction, were it not for a due Evacuation of the ſame, by a free Perſpiration through the ſeveral Parts of their different Bodies, by the Sun's moſt powerful Influences; that by Degrees brings on ſuch a Rarefaction of the Sap and Juices, as to cauſe them vigorouſly to diſcharge their phlegmatick Crudities, that the Tree alternately receives.

In order then to raiſe great Numbers of Oaks in the beſt Manner; I ſhall obſerve, that in a plentiful Maſt Year, due Care ſhould be taken, about the Beginning of *November*, or ſooner, to collect and get the largeſt and ſoundeſt Acorns (for the Biggeſt of all Seeds are beſt) when they fall from the Tree through Ripeneſs, for the full Maturity of them is a main Thing; when enough are gathered, the Diſpoſal of them is next to be conſidered. If Conveniency allows them to be ſown at the beſt Time of all, they ought to be got into the Ground as ſoon as poſſible, upon the fineſt and well dreſſed mellow Ground, that has been under a Preparation for this Purpoſe, the whole Summer, if not the Winter too before.

Various are the Ways that have been practiſed in this Work, according to the Ground and different Opinions of Men; but as I take it to be my Buſineſs at preſent, if I can, to ſhew the cheapeſt and moſt profitable Way to obtain a Wood of Oak; I ſhall therefore begin with ſowing Acorns in broad Lands on this hollow Earth. Let the Land be ploughed into very ſmall Thoroughs immediately before the ſowing of the Acorns; then take two Buſhel of them, and ſow out of a Seed Cot, by the broad Caſt of the Hand, then harrow them in at Diſcretion: This Quantity, if they take, will more than furniſh an Acre of Ground; but here is Allowance given for Incidents from Fowls and Mice: From this Management, perhaps, there will ariſe an Objection, that this large bodied Seed will not be haled or covered, becauſe in broad Lands there is not a ſufficient Hollowneſs of Ground to cover their Bodies from the Injuries of Weather, Fowls, and Mice. To this I anſwer, That there is Depth enough between the Thoroughs to envellope and cover moſt of them, by means of the harrow Tynes, inſomuch, that if theſe or the greateſt Part of them grow that are covered, there will be a ſufficient Number to ſtock the Ground if the reſt were all carried off; but that Danger is not ſo great, if we conſider that in a plentiful Year of Maſt, and at that Seaſon of *October* or *November*, there is full Proviſion for Birds and Mice; not only from this Maſt of Oak, but from the many Corn Fields that then abound with great Store of ſcattered Grain from the preceding Harveſt, which by Conſequence will divert their Search and Queſt after theſe: And if a Fowling-piece is employ'd a little, the Danger will be the leſs, for the looſe Ground will readily receive and draw in the Acorn, and then the Hazard is moſtly over from theſe Sort of Enemies, and alſo from the Weather, becauſe the Radicle having taken the Ground before the Severities of the Winter, it will thereby be enabled to maintain itſelf from Winter to Winter, till it becomes a ſturdy Oak.

The next Thing is, to have a ſtrong Fence, that no Sort of Cattle may poſſibly break in; and then there is no more to be done, but to leave this ſowed Ground to Providence, and there is no Fear of the beſt and cheapeſt of Woods.

Remarks on the preceding Method.

THis Way of ſowing the Acorns and harrowing them in, is ſurely the neareſt of all others to that of Nature; which always receives upon, and nouriſhes the Seed from the very Surface of the Ground, as being the richeſt Part of all the Earth; is neareſt, and more ready to take in thoſe Benefits that the Sun, Air, Rain, and Dews communicate, which are the very vital Parts and Nurſes of the young Oaks; and therefore the more they enjoy of theſe nutritious Influences, the faſter they grow; and this is the true Reaſon that thoſe numberleſs Objects that preſent themſelves to Travellers Eyes, who will but employ them in the Views of the deep and wrong planted Bodies of Trees, are longer growing, and ſo become ſet and ſtunted in leſs than half their Time, as may appear by the knotty, moſſy Bodies and brouſy Heads of Oaks, Aſhes, and Beeches, *&c.* and that in ſome of my own Fields, which was cauſed at firſt, I ſuppoſe, by their being too deep planted, that obliged their Roots to make their Way into, and ſeek their Food amongſt the red Clays, that lie about two Foot lower than the Surface; while ſeveral others, that are planted high and near them, flouriſh and grow in clean upright Bodies and thriving Heads: This has brought on neceſſitous Conſequences, that has obliged many Owners of ſuch Trees to cut them down in this their ſtunted Condition at leſs than half Age, which is the Time that a well planted Tree runs and grows more in one Year than formerly in ſeveral, as I ſaid before; by which may plainly appear the great Value, Moment, and Importance of high ſowing and ſetting at firſt the Seeds and Sets of theſe Timber Trees; becauſe an Error in the Beginning is the worſt of Errors, as being moſt difficult to redreſs, and often irreparable; and, I think I may ſay, that wherever a Seed or Set at firſt is put into the Ground too deep, it will never make a good Tree of any Sort; therefore I ſhall add the following Directions, *viz.* In caſe you are to improve a low, wettiſh, vale Ground, by raiſing an Oaken Wood on the ſame, then with a Foot or Swing Plough raiſe the Land up to lie in half Acres, whole Acres, in ſix or in eight thorough'd Lands as your Fancy leads you, and proceed thus. If it is a ſward, graſſy Ground, it muſt be firſt ploughed into broad Lands for the Turf to lie and rot from *Michaelmas* to *Lady-Day*: In *April* ridge it up, in *June* harrow and lay on your rotten Dung, Virgin Mould, Marle, Fowl Dung, or other good Dreſſing, for the Soil can't be too rich for this Purpoſe: Then plough it directly in the ſame Way the laſt was done, that it may lie, mix, and incorporate with the Earth againſt your Seaſon, which is to be at *Allhollantide*, the Acorns then being fit to gather full ripe by the Hand; for theſe Sort of large Seeds muſt not be beat off the Trees, as many ignorant People do, and ſo hinder the Tree from bearing ſome Years after, and alſo damage the Fruit to that Degree, by the Blow and Fall, as either to hinder their taking Root, or elſe to cauſe a half-grown dwindling Oak. Now the laſt Ploughing you are to perform, is to be done by caſting down, or beginning firſt at the Outſides of the Land. But juſt before you thus plough, you muſt ſow one or two Buſhels of Acorns all over the half-Acre Land broad Caſt, and plough them in under Thorough, for this Soil generally ſhatters on a Froſt, and will eaſily let out the young Spires: When this is done, your Work is over till you encloſe it from Cattle, for in this Management you need not weed at all, but let the Graſs grow as faſt as it will; the Reaſons for which I ſhall hereafter ſhew.

But in the Chiltern or Hilly Grounds the Caſe muſt be alter'd; for to bring ſuch into a fine Tilth, you are firſt to plough it into broad Lands at *Allhollantide* with the fallow Wheel Plough, which let lie till *Lady-Day* following; for by that Time the Ground will get rotten, then harrow it plain, and directly lay on your rotten Dung, or Hen-Dung, Horn-Shavings, Hoofs, or Rags, or Coney-Clippings, or Sheeps-Trotters, or Soap-Aſhes, and immediately bout the Land a-croſs with the fallow Wheel Plough: Thus let it remain till *Midſummer*, when it muſt be bouted again a ſecond Time. At *Michaelmas* back-bout the Ground, down, and at *Allhollantide* harrow it plain: Then take thoſe Acorns that have fallen down of themſelves through Ripeneſs on a ſoft Ground, or gathered ones, and ſow broad Caſt three or four Buſhels on one Acre and plough them in very ſhallow under Thorough; for theſe Seeds are rather too large to be harrowed in, unleſs they be ſowed on a tough Ground, and on a tough Tilth. By theſe two Methods the Acorns are ſecured from the Beaks and Claws of Fowls; and if you have a Mind they ſhould be ſo from Mice and Worms, in *January* following ſlack forty Buſhels of ſtone Lime on one Acre and ſow it out of the Seed Cott broad Caſt all over the Ground; or, twenty Buſhels of Soot on an Acre, and it will drive down the Worm, and diſcourage the Mice: Alſo by theſe ſeveral Ploughings and Harrowings the Ground is got into ſo fine a Tilth that there will be no Danger of burying the Acorns; becauſe the Earth will be ſo looſe as eaſily to let out their Spires; for the bigger the Seed, the ſooner it buries in a ſtiff clotty Earth; witneſs the Horſe-beans, that in red Clays are often loſt by reaſon their broad Heads can't make their Way out: But when they take to grow well here, you may afterwards draw out what under-line Plants you pleaſe, and only leave the Maſter thriving one, which will thus make a cleaner, ſtraiter, and taller Tree by this its ſpontaneous Growth, from their natural Tap and other Roots, than any tranſplanted one whatſoever.

The Sap of Trees ſtirs at three Seaſons of the Year; in *April*, at *Midſummer*, and at *Autumn*: At the two firſt the Bark will peel, but it won't between them Times. As it lies in all Parts of the Tree all the Winter, at *Spring* it makes Shoots, Leaves, and Bloſſoms; at *Midſummer* it makes Fruit; and in *Autumn* another ſmall Shoot. To prove the Sap is always in the Tree, an Oak was cut down in Winter, and next *April* the Sap was ſo fluid in it, that it was peeled as eaſy as others piſt fell, tho' it was cut in ſeveral Pieces as it lay on the open Ground.

A Second Way.

MAY be done by planting the Acorn at every forty Foot Diſtance, in Rows or otherways. Firſt, make a Hole of three or four Foot Diameter, and a Foot or two deep; lay the Earth about the Edge of the ſame in ſmall Parcels, the Beginning of Winter, for the Froſts to ſhoal and ſweeten againſt the Spring: Or, if you are to plant theſe Holes at *Allhollantide*, then they muſt be prepared accordingly before; ſo that either then, or at Spring, they may be a fine Tilth and looſe Order; and when ſo, thruſt three, ſix, or nine Acorns in the Circumference of each Hole, about half a Finger's Depth, which by the next Year will be up, and then may be drawn all that are ſuperfluous, and only the Maſter-ſhoot left; at this Rate there will be twenty-ſeven Oaks left in a ſquare Acre of Ground, at one in each Hole: After this the Ground about the young Tree muſt be carefully houghed ſeveral Times a Year, for ten or twenty Years, and Fences made about each Oak.

This Way will certainly do very well, but the exceſſive Charge that attends the yearly Management of the Oaks for ſome Years, is ſeemingly to me a little diſcouraging, tho' in Proceſs of Time, I believe, it will pay a Man in Proportion, to fifteen or twenty Shillings each Oak at twenty Years End, provided their Side-Shoots are duly trimm'd, and Underwood not planted amongſt them till ſix or eight Years be paſt, leſt it get up and top the young Oaks to their great Prejudice.

Remarks on the Second Method.

THIS Way has this Advantage, that the Roots of the Acorns has wider and looſer Room to run into than the former; and therefore, I muſt needs ſay, is an excellent Method; becauſe the Hollowneſs, Fineneſs, and Sweetneſs of any Earth, contribute greatly to the quick Growth of any Vegetable therein planted; and were it poſſible always to keep their Roots growing in ſuch a looſe Mould, an Oak, or any other Tree, would certainly attain its full Bulk in half the uſual Time it does: This I have in Proportion ſeen experienc'd by a Tree's Growth, that was ſet in a Pit or Hole of looſe Earth of a large Extenſion, which out-run all the Trees in Quickneſs of Shoot that ever I ſaw: Here the Acorn may be ſet as ſhallow as a Perſon thinks fit, and the Ground about them, for twenty Years together, houghed and always kept clean from the Tyranny of choaking Weeds: And here as the Tree grows up, ſhould a Perſon annually obſerve to rub the Body with a Hair Cloath, or Back of a Knife; the firſt Application to be made uſe of in dry Weather, the latter in wet, which will dilate its Bark, and open its Pores for readier receiving the Sun's Warmth, and the Rain's Moiſture, that will feed and aſſiſt a Tree more than is generally thought of: It is this that keeps off that grand Enemy the Moſs, which will inevitably overtake all Oaks little or more that want this Sort of Husbandry.

Theſe Holes may be made in Rows to anſwer both Ways of the Field, that the Plough may thereby have Room to paſs and repaſs the croſs and long Ways of this Ground the better, and for the great Convenciency of ploughing and ſowing any Sort of Grain, or Graſs Seeds on the ſame for the firſt ten Years of this Plantation, till the Oaks have got good Roots, and their Heads high enough in the Air as to be out of Cattle's reach: But then here may ariſe an Objection, that the young Oaks will ſurely ſuffer, if not ruined, by the Horſe, Cow, and Sheep, that may be turned into this Ground to feed, if the Oaks be not fenced in. To this I anſwer, that to avoid the great Expence of cooping and fencing each Tree, I would turn no Cattle into this Ground, but ſupply it another way, and that is, if Grain is on it, then as ſoon as it is got off, plough it up, and ſow it in the next Spring with more Grain or Graſs; if the latter,

then

then it may be let to grow, and mow two or three Years ſucceſſively, to the great enriching of the Ground; if, again, Corn is to follow that, it's only ploughing the Land into a fine Tilth, and dreſs it with Dung or other Manure; and ſo likewiſe for the Seeds or Sets of Underwood that is to grow thereon, and furniſh this Field for ever after.

Here, therefore, by a right Management, the Charge of Fencing the young Oaks about, may be ſaved, and the Ground altogether as well enjoyed to Profit; but then, as a Safeguard to both, there ought to be, not only an outſide Hedge and Ditch, but alſo a good Railing within-ſide, by driving a large Oaken Stake at every five Foot Diſtance, and pinning or nailing thereto three or four Rows of Rails, about four Inches deep each Rail; this will be an effectual Guard, with the Help of a Man's over-ſight now and then, and a forbidding Fence againſt thoſe Night Encroachers and Invaders of a Man's Property, who make it their Buſineſs to take all Advantages of a diſtant Piece of Ground, ſo planted and ſowed with Acorns, and have ſpoiled ſeveral Acres by their Horſe and Sheeps biting the leading Shoots before the firſt ſeven Years was over, for the Lucre of the Graſs that grows between the young Trees. But if a Fence or Coop was at firſt ſet about each Hole, that would not ſecure the Underwood from the Damage of Cattle, which afterwards is to grow between them: Whereas this inſide Railing round the Field at firſt, will laſt twenty Years, and thoroughly ſecure both the Oaks, Corn, Graſs, and Underwood, from all Hurt of Beaſts, and greatly from the Rapine of Thieves.

This Method of planting Acorns in Holes, is not altogether confined to a Year, or half a Year's Preparation of the Ground, but may be done on a ſudden: For, ſuppoſe I had a Mind to get a Wood of Oak, Aſh, or Beech on a Wheat or other Stubble or Meadow Ground; then at *Allhollantide*, or at Spring, I would dig my Holes at forty Foot Diſtance, and at the ſame Time bring as much Virgin Mould to the Place as is neceſſary, and carry as much to fill up its Vacancy, which is only an Exchange, but greatly to our Purpoſe in forwarding the Oak's Growth; or elſe I would mix Soot, Rabits Dung, or Fowls Dung, *&c.* with the natural Earth that comes out of the Hole, and put it in again. If Graſs Ground, the Turf muſt lie at Bottom. In this I would plant my Acorns directly; the reſt of the Ground may be ploughed and ſowed according to Diſcretion, with Corn or Graſs, as I have before hinted. By this no Time is loſt, and all the Encouragement that can well be given, is here made uſe of. Here is ſaved that great Charge and Trouble of Summer-waterings, that a planted Acorn does not require. Here is ſaved the fatiguing, hazardous Work of tranſplanting; and here is a Tree to come up, that will be ſtronger in the Ground, and grow faſter than any Set whatſoever.

If the Oak is to grow in Parks or other Places, where the Herbage is to be fed by Dear or other Cattle, then ſixty or ſeventy Foot is but due Diſtance for the Growth of ſuch Tree and Graſs; and by how much they are planted aſunder, the more the Oak enjoys a free Air, Circulation of its Sap, and Perſpiration of its worſer Part, which is always more promoted and furthered in its Head, if the Side-Shoots are conſtantly pinch'd or pulled off, and the Ground once a Year digged about the Oaks Roots at every *Michaelmas*, and afterwards kept diſhed in a Bowl-like Manner for the better receiving the nutritious Rains.

Thus an Acre of Ground, worth but five or ten Shillings an Acre a Year, may be improved to near, if not quite, twenty, with a trifling Charge, which too plainly diſcovers the Indolence of many able Owners who are wanting in doing themſelves and the Nation this great and good Service.

I have forborn to ſet down particular Calculations of the ſeveral Charges and Expences of railing and ſencing in the Holes and Field, becauſe that is obvious to every Farmer, and is of greater or leſſer Amount, according to a Perſon's Conveniency of having Wood and Servants of his own; or as that Part of the Country, where the Operation is performed, is nearer or further off from *London*.

A Third Way.

AND that is, when by ſeveral Ploughings and a good Dreſſing, the Earth is got into good Order, and lies in broad Lands, to ſow the Acorns half under Thorough, and half on the Surface, as we often do Peas and Horſe Beans: At firſt the Man ſows half the Seed all over the Piece of Ground, and ploughs them in as ſhallow as poſſible; when that is done, he ſows the other half over the ſame Ground, and harrows them in; this ſecures one half, however, from the Fowls and Weather: But this according to the Mind of each Perſon; for my Part, I am for following the Steps of Nature as cloſe as I can, and I think I cannot copy her more nearly than harrowing in the Acorns as I have ſaid before, that they may grow from the very Top of the Earth, as all do that fall from Trees, or dropt and left by Fowls or Mice; as it alſo is, with the great Numbers of Cherry-trees that grow in our Woods, occaſion'd by the Stones that the Fowls drop from their Beaks and Bodies.

Remarks on the Third Method.

I Confeſs that where the Ground is a true Loam, and that ploughed into a fine hollow Tilth, and that again furthered by Cart-rotten Dungs, the Acorn here may ſpeed very well; but without this Management, I think it's but Male-Practice, and will greatly endanger burying the Acrons; as I knew it once done ſome Years ago, by a Man's following the Plough, and ſtraining in the Acorns every ſecond Thorough of a Wheat Stitch, that was thus ploughed down into broad Lands, which abſolutely bury'd the Acorns, and the Owner loſt both his Hopes and Profit by ſo doing; becauſe the Earth was heavy and clung for Want of ſeveral ploughings that ſhould have preceded the ſowing of the Acorns; and alſo for Want of its being well dung'd, that would have put the Ground into good Heart, and kept it hollow for the free and eaſy ſpouting of the Seed.

A Fourth Way.

IS, if Opportunity does not anſwer a Perſon's Inclination of ſowing the Acorn as ſoon as ripe; or that the Ground is too wet and low for venturing them at that Time of the Year; then the Owner may lay them in dry Sand upon a Layer of that, then a Layer of Acorns, and ſo on in a Tub, Barrel, or Room, which will ſtop the Acorn's Growth, and make it fit for ſowing in *February* or *March*, in a true fine Tilth and well dreſs'd Ground. In this Caſe, a Method ought to be adapted to the Nature of the Soil and Situation of the Place; and therefore on ſuch a wet, low Earth, broad Lands are very improper to ſow the Acorn in, becauſe the Wets would chill and ſtunt the young Oaks, and hinder them from ever attaining a proper Bulk and Stature: For which reaſon, when the Ground is in true Order, and in broad Lands, either with the Foot or Wheel Plough, make a Stitch or Ridge at a Bout, and ſtrain in the Acorns by a Man's Hand in two Thoroughs a little Diſtance in the Stitch; then run the Plough between, which will make a Hollow or Henting that covers and fills in both the Thoroughs at once; and ſo on after this Way throughout the Field; leaving between each Stitch or Ridge three, ſix, or more whole Feet of whole Ground that is not to be medled with. This high ſowing on a Stitch will very much contribute to the Preſervation of the Acorn, againſt the Damage of Wets and Chills, that in many Grounds is the Bane of all Things that grow therein.

Remarks on the Fourth Method.

AS the Acorns are ſown in Stitches, or Ridges, at no greater Diſtance than what is neceſſary for the Spread of the Oaks Roots, there ſhould nothing elſe be ſuffer'd to grow but them; and this may be done by the Interſpaces being kept clean with Houghs, and then the young Trees will have a great Advantage by this high ſowing; becauſe many of their Roots will run almoſt level with the Ground, and be better water'd by the Rain's Deſcenſion from the Top and Sides of the Stitches; ſo that here will be nothing more to do, than looking after their Bodies and keeping them from Moſs, the Growth of Side-Shoots, and thinning them where they are too thick. I have planted ſeveral Apple Trees in my Orchard in Stitches, that by this Means grow as faſt again as thoſe in the Levels. At *Leyburn* in the Vale, I have alſo ſeen a fine Apple Orchard, that becauſe the Ground was flat and wettiſh, they planted the Trees on high Ridges made by the Foot Plough, by ridging up four or ſix Foot broad of Earth. So likewiſe either in the Vale or Chiltern may Oaken Sets be planted on theſe Ridges, alone, or with ſallow Sets or Cuttings, *&c.* But here I muſt farther obſerve, that in laying by Acorns all the Winter to ſow in the Spring, ſome will judiciouſly ſpread them all over a boarded Floor, in a thin Manner, in Order to keep them from heating and ſprouting, and is what will do very well if preſerved from the Froſt, which is another Enemy to this Seed. I knew an ignorant Perſon once keep Acorns all the cold Seaſon in a heap in a Chamber, and ſo ſpoiled many of them and damag'd the Plantation of Oaks which grew from the reſt, few of the Acorns having eſcaped a Bruiſe, or ſpring in ſome Degree before they were ſown: But what added to this Misfortune, the Ground, which was a loamy Gravel in the Chiltern Country, had but one Ploughing allow'd it off a Stubble, and then the Acorns were ploughed in ſo deep that many never came thro' and thoſe that did, at twenty Years Growth, were ſcraggy, ſtunted, poor, ſmall Oaks, leaving beſides the Ground at leaſt half Treeleſs.

Oak peeled as it ſtands, and remaining ſo two or three Years, hardens the Sap almoſt like unto Heart.

An Oak fell'd in Winter, and another in *April*; the firſt rotted when the laſt was ſound.

Right *Engliſh* Oak makes a Caſk that will laſt as long again as that of *Norway*: *Norway* Oak is commonly ſo porous, that if you put ſome Spittle at the End of a Stave a Foot or more long, and blow at the contrary End, it will ſputter like a Piece of Cane, if the Grain runs ſtrait, and there is no Knot between. But ſound *Engliſh* Oak, cut down at a right Age from a good Soil, is generally of too cloſe Parts to admit of ſuch a Proof.

An Oaken thraſhing Floor was laid half with Planks ſoak'd in black Pond Water, and the other half with unſoak'd Planks; at fourteen Years End the firſt was ſound, when the laſt was rotten at the Bottom Side.

Oaks made Pollards, is quite wrong; for while its ſlow Shoots are growing, the Body of the Tree is rotting. Oak will grow better in wet than dry Ground. I have heard of a tranſplanted one in a moiſt Soil pay 8 *l.* at fifty Years Growth.

A Fifth Way.

AT *Potten-End*, about two Miles from me, (I am told by a Perſon now living that ſaw it) there was, about forty Years ago, half an Acre of Land ſowed with moſt Sorts of Seeds of Wood, that the Owner could get amongſt, which were Hazel Nuts; theſe invited the Boys as careſully to carry them off, as he brought them on; which Accident ſo inſtamp'd the Tranſaction on the Memory of thoſe that were the Gatherers of the Nuts at that Time, as cauſed them to remember the Matter (as they ſay) truly well. And there is now on the ſame Piece of Ground, good Oaks, Beech, Aſh, *&c.* that grow very well from the Perſon's harrowing all the Seeds in, which as ſoon as done, he ſowed Hens Dung all over the ſame, that by the Winter Rains was waſhed in before the next Summer: This Method was attended with great Succeſs, for the Fowl Dung made the Seeds puſh up and run vigorouſly, ſo that they overcame the Weeds and made their Progreſs, without their Hindrance.

Remarks on the Fifth Method.

THIS Way is full Sowing and full Dreſſing at one and the ſame Time, which admits of no other Improvement, than cleaning, fencing in, pulling off the lateral Shoots as they appear, and thinning where they are too thick.

A Sixth Way.

THere is in my Neighbourhood a Man that the Farmers in general allow to underſtand Country Affairs very well, and is often imployed in Wood Work, who ſays, that if a Piece of Ground is deſigned for a Wood of Oak, there is not (in his Opinion) a better Way to obtain it, than to plough, dung, and let it run over with wild Graſs and Weeds, which it will do in one Summer, and at the End thereof, about *Allhollantide* or ſooner, to ſow four Buſhel of Acorns, or more, broad Caſt on each Acre thereof; and do nothing more than fence in the Ground from Damage of Cattle, to have a Wood the quickeſt and in the beſt Manner of all others —— his Reaſons for ſo doing are theſe, *viz.*

Firſt, This Graſs and Weeds, by its large Burthen, will cauſe a great Hollowneſs on the Surface of the Ground, which by its dying on the ſame, becomes one of the beſt Manures, not only by helping to keep in the Spirit of the Earth, which all Shades certainly contribute too, but returns ſaline, nitrous, and ſulphurous Qualities back again, by the Dung and Dreſſing this rotted Fogg makes, and thereby brings the Ground under a gradual Fermentation, and hollow, ſpungy Texture of Parts, as is moſt evidently felt by the ſoft, hollow Tread of one's Foot in woody Grounds; or where a good

Crop of Peas, or other Stover in great Quantities has been taken off.

Secondly, That this and all Ground has ſuch a Suction and Attraction inherent to its Nature (as being the Mother of all Things) as will eagerly draw all Sorts of Seeds into its Surface; and therefore it is, that the Earth freely receives and ſhelters the Acorn, ſo that it will lie in this looſe mellow, moiſt, warm Earth; and by next Summer grow with great Vigour, and be defended from the Damage of Droughts by the Cover of this Graſs and Fogg; which by yearly conſuming on the Ground, becomes a yearly Dreſſing to the young Oaks, and will puſh them on with great Fertility.

Remarks on the Sixth Method.

I Can't ſay, but this Way has a Probability of Succeſs attending it, by reaſon it is ſo near that of Nature; for in a four Acre Meadow of my own, adjoyning to my Houſe, there were reckon'd by the Mowers to be two hundred young Oaks, about ſix Inches long, that ſpontaneouſly grow up from the Acorns that were brought there by the greateſt Artiſts in the World, the Fowls and Mice; who made this Piece of Ground their Rendezvous to ſeed on the Acorns, that they collected and brought from the adjacent Woods. My Number are fiſteen incloſed Fields, conſiſting of Meadows and ploughed Grounds, nine others I rent of our Parſon: Now in all the ploughed and meadow Fields, I believe I may ſay, there were growing this Summer, 1732, great Numbers of young Oaks from the Acorns that Birds and Mice brought on the Ground, from Trees that the Year before were almoſt full of them; by which it appears, that the Fowls and Mice are the firſt Bringers on, and Sowers of the Acorns in the Meadows and ploughed Grounds; becauſe its Body being a large Solid, cannot be ſuppoſed to be ſcatter'd over ſuch Grounds by the Wind; and why the Meadow, or any other ſmooth ploughed Ground ſhould have a greater Share of this Seed, than the rough, clotty Land, is eaſily accounted for: Becauſe here is ſmooth Walking, and eaſier Acceſs to each others Company, which is agreeable to Fowls as well as Beaſts; and here is the Place that they are beſt acquainted with, from their uſual frequenting at other Times in the Year, in queſt of Worms, Snails, *&c.* which in the rough Grounds cannot be ſo pleaſant, becauſe they there muſt look before they ſtep, and ſo loſe in a great Meaſure their Enjoyment in feeding on this delicious Food, which they are always moſt pleaſed with, when they can eat it in an unobſtructed Piece of Ground: Here it is then that they ſcatter this Seed, and ſometimes leave it on the ſame by Way of Magazine, and Proviſion againſt their next Hunger; and ſometimes they bring to theſe Places Branches of Acorns which are not always eaten; at other Times they are ſuddenly ſcared and frighted from the Spot of Ground, which in their precipitated Fright cauſes them to leave and forget the Acorns they lately brought, and that chiefly by the Rook, Crow, and Jay: The Rook upon this Account is the buſieſt, and moſt common Fowl of all others, by Reaſon of their greater Numbers; and it is diſputed by ſome, whether they don't bring ſeveral Acorns in that Bag which generally hangs under the old one's Throat, and diſgorge them as Pigeons do Peas and Beans at their Pleaſure: We are very ſenſible they bring Worms and Water in this Bag, to feed their young ones with; and nothing but the Bigneſs of the Acorn makes us doubt their not doing ſo by this, in order to make their Hoards at the Bottom of a Furze-buſh, and other Places, which the Furze-men often find, as well as Walnuts that the Rooks thruſt in with their Beaks; by which Means, are the many young Oaks ſeen on Commons, that are cut down when the Furzens are, by the Stroaks of their two-handed long Bills; for it often happens that a great deal of this Seed is envellop'd and cover'd by the Moſs and Graſs, that the hollow Earth in ploughed Grounds will readily and naturally receive, nouriſh, and cauſe the ſame to ſtrike its Radicle into it; where, at that Time of the Year, it has more than ordinary Encouragement to grow, becauſe the Rains and Dews are moderate, and the Ground about *Michaelmas* Time under a fertile, bearing State; and by thus getting Root eaſily, it ſecures itſelf againſt the Violence of the Winter Froſts and Wets. It is common about *Marlow* in *Berkſhire* for the Boys to follow the Rooks, to get the Walnuts they bring and leave on the Grounds there. Alſo in the Grove Meadows, a Mile below *Ivinghoe*, a Ploughman told me he had ploughed up great Numbers of Acorns and Walnuts this Summer, 1732, when he turned up the Ant-hills with the long, wide, ſharr'd-foot Plough; theſe he concluded were brought thither by the Rooks, who feed on them there for their greater Safety and Repoſe; and thoſe that were left, were carry'd away by the Mice, for their Winter Proviſion; for the Rook is a ſubtle Fowl, and will ſtrip a Walnut Tree in a little Time, and will hoard them, as knowing they will be ſoon deprived of that Opportunity, by their being gather'd; and ſo of the Acorn, I have ſeen them rid a Tree preſently, by their great Numbers.

Hence it is, that I infer, that a Meadow or prepared ploughed Ground, that lies at a ſmall Diſtance from a Wood of Oak, and in an undiſturbed Situation, may poſſibly have conſiderable Numbers of young Oaks grow on the ſame, beſides what are produced by ſowed Acorns and planted Sets, merely by the Fowls bringing the Acorns, and feeding on them there, in a plentiful Maſt Year. And if this Field, or Piece of Ground, lies in reach of the Wind's Power, by which they may be convey'd from ſome neighbouring Wood, Hedges, or ſingle Trees, then will there be as numerous an Iſſue by Aſhen Keys, and Gollins of Sallows, Aſps, and white Wood, as will quickly compleat this intended Wood, and out-do the very next Field that was ſowed or ſet too deep. But I would here be underſtood, that I am not a direct Votary for any certain Streſs to be laid on this Method of encreaſing a Wood of Oak, Beech, Aſh, Sallow, *&c.* only to ſhew the Poſſibility and Probability of augmenting one by Fowls, Mice, and Winds; for it may be depended on, that ſowing and planting the Acorn and Set, is much the ſurer Way.

The Seventh Way.

IN ſome Part of *Hampſhire* I have been creditably informed, that it has been the Practice of ſome, to plant a Piece of Ground with young Oaken Trees, as being thought to be the quickeſt Way of all others to get a Wood; but then this Method is confined only to the Power of thoſe who are Owners of a Wood already, or at leaſt but to few others; and then they dig and take up a young Oak, perhaps of four, five, ſix, or eight Foot high, with ſuch a Ball or Parcel of Earth, as when carefully carried and tranſplanted with the Roots in it, and put into Holes duly prepared before-hand, will grow, flouriſh, and come to Perfection much ſooner than the ſmall Set or Acorn; and by loſing Part, or all of its Tap-root, will commence its new Growth horizontally, and get its Nouriſhment from the very beſt Part of the Ground, I mean the Surface; and this Work ſhould be done in *October*, as the very beſt Time in the whole Year; or in froſty Weather, by digging ſome Time before about the young Oak, and as ſoon as the Earth is hard frozen about its Roots, then take up the Tree and that together, and carry it on a Sledge, or other Carriage, to the Place deſigned, and ſtake or fence it up very well, as directed for the Beech; thus an Oaken Wood may ſooner than ordinary be brought into a State of Perfection.

The latter End of *November*, 1732, was the firſt Froſt that happen'd this Winter, when ſeveral Firr Trees, I believe twenty Foot high, and eight Inches Diameter in Body, were tranſplanted in this Manner, on a Common near me, with a Beech at every ten Foot Diſtance between them, for covering the View of an old Houſe that ſtood at the End of a Viſto; the Turf was firſt pared off, and the under Mould looſen'd; on this they planted the Trees, and mounded them up with Turf they pared off about the Place, which was ſufficient with the Earth they brought with the Trees Roots; putting at the ſame Time, Wheat-ſtraw between the layings of the Turf, to keep the Froſts off in Winter, and the Draught of the Sun and Air in Summer; after this, they ſtaked each Tree with four Poles, of about ten Foot long.

* * *

CHAP.

CHAP. II.

The Nature and Improvement of the BEECH.

THE white, or ſilver Beech is the moſt common in theſe Parts, where we abound in Mountains and hilly Grounds of Chalks, Clays, Gravels, and Loams, which make conſiderable Returns of Profit to their Owners in the Growth of this moſt valuable Tree: 'Tis this Tree that makes many Parts of *England* happy in its Productions, and chiefly, becauſe it will grow on the Sides and ſteep Declivities of chalky Hills, where no other Timber will thrive ſo well; as may be ſeen in that long Chain of high Grounds, that runs from *Dunſtable* to near *Wallingford*, which is above twenty Miles to the Weſtward, and lies moſtly contiguous to the fertile Vale of *Ailesbury*.

The black-grain'd, or black-bark'd Beech, whoſe Wood is of a longer Duration, will thrive, and make its plentiful Returns of Wood, and Maſt, in the Flats and Levels of this our Chiltern Country; and, to ſpeak more general, they both anſwer ſo well in any of theſe Grounds, that I don't perceive any Regard is had to the particular Species of the Beech in ſowing the Maſt, or making Plantations by Sets. But it is certain, that neither Sort of Beech will grow to any Purpoſe in the large Vale of *Ailesbury*, or in any wet, mooriſh Ground; yet will thrive very faſt, and to a monſtrous Size, in our Loams, Clays, and chalky Grounds, *&c.* in the Chiltern; inſomuch, that I knew one fell'd in *Aſhridge* Park that had one hundred and fifty-ſeven Foot of Timber in it, beſides twenty-one Stack of Firewood Billet, nine Stack of Roots, and three hundred of Faggots. Where alſo may now be ſeen great Numbers of very large Beech Trees, as being accounted by good Judges, one of the beſt wooded Parks in *England*. This utterly confutes what a modern Author ſays, That wherever the Oak thrives the Beech will, and that they delight very much to grow together —— Whereas ſome of the greateſt Oaks have, and do flouriſh in this Vale, that refuſes Entertainment to the Beech, notwithſtanding the many Attempts that have been made by ſeveral to obtain their Growth there; particularly by Sir *Thomas Leigh*, the preſent Repreſentative for *Ailesbury*; by their ſowing the Maſt, and planting young Beeches amongſt, or near their Oaks, within a few Miles of that Town, but to no Purpoſe; for the Beech will never make a good Tree in their vale, ſpewy, and wet Soil; nor will the Oak, nor, indeed, any other Timber Tree, grow to any Profit in chalky Grounds; which obliged our Forefathers, as well as thoſe of the preſent Age, to ſet the Sides of their chalky Hills, *&c.* with Beech-maſt, where this Tree will run up to a vaſt Height with great Expedition; as may be ſeen on that worthy Gentleman's Eſtate, *John Duncombe*, Eſq; at *Barly-End*, near me: Nor can I be of Opinion, that the Oak and Beech grow beſt together; but, on the contrary, I believe them beſt in their own Company, becauſe the Beech grows too faſt for the Oak's Pace; and, as if Nature delighted herſelf with the entire Growth of each Sort, it generally happens in our Chiltern, that where a Wood of Oak has been fell'd, a Wood of Beech has ſpontaneouſly ſucceeded; and when this has once got Dominion, it will be ſure always to remain Maſter. This very Caſe has happen'd to Sir *William Stanhope*'s Wood, about twenty Years ago, within a Quarter of a Mile of my Houſe, called *The Great Hoo*, where the young Beeches grow ſo faſt in the

Room of the Oaks, that it is thought they will be fit to fell about twenty Years hence.

This Tree furniſhes Boards for Outſides of Barns, Floors of Chambers, and for Threſhing, Wood for Fellows of Wheels, Frames of Chairs, Ship and Mill-wright, Turners of hollow Ware, and even for Wainſcot: In the Water this Wood is ſaid to lie hundreds of Years without decay, which makes it ſo ſerviceable in Mill-work, *&c.* that they have chiefly by theſe Means proved it Timber, which formerly in many Places was deem'd otherwiſe, particularly in *Hertfordſhire.* A famous Inſtance of which, happen'd between —— *Uxley*, Eſq; Defendant, and the Rev. Mr. *Biby* of *Carrington*, Plaintiff, about the Year 1725; the Conteſt was ſome Time before the Barons of the *Exchequer*, but was at laſt given in Favour of the Defendant, on Account of its Timber-Uſes in Mill-work, Keels of Ships, and in Houſe-building, *&c.* ſo that in *Hertfordſhire* it is now deem'd Timber, as well as before this Tryal it was in *Bucks*, after twenty Years old, and then Tythe-free; but if any Beech is fell'd, and another from the ſame grows up, this is to be tythed whenever it is cut down.

Of the Sap *of* Beech, *and how to get it out.*

THE Sap of this Tree is more deſtructive to its Wood, than any other Timber Sort whatſoever; therefore 'tis a uſeful Art how to get it out; for 'tis this Sap that breeds the Worm faſter, and in more Abundance than in any other, cauſing a ſwift Rot and other Misfortunes; which very material Point has not, as I know of, been yet wrote of by any Author; and it is ſo perfectly neceſſary to get the Sap out of the Beech, by ſome Means or other, before the Wainſcot Boards or Planks, *&c.* are made uſe of; that otherwiſe they will bulge out and in for many Years, as the Weather is moiſt or dry; and ſo it will in Flooring-boards, notwithſtanding they are nail'd down ever ſo faſt; as I have proved in a Garret-floor of my own, which unfortunately fired by a Neighbour's Houſe, but ſeveral of the Beechen-boards were preſerved and laid down again, ſince which they never ſtirred: Therefore if the Sap could be got out, I doubt not but they would lie as well as other Boards, as plainly appears by theſe of mine that were ſcorch'd, and the Sap burnt out: But in the two Inch Plank for Barn-flooring, where they are drove down with wooden Pins, they may lie well enough for many Years; if immediately after ſawing they are thrown into a Pond or River, and there let lain four or five Months, after which they muſt be thoroughly dried and layed twice. The Practice of an old Carpenter by me, is, to cut this Tree down in Winter, and let it lie on the Ground two Years, till the Wood begins to be ſpotted or motled; then he cuts it into Planks or Boards, and ſoaks them in freſh Water; but if a Perſon had the Conveniency of ſalt Water, I ſhould think that would be much better: By this Time, he ſays, the Sap is ſo deaden'd and harden'd, that the Worm cannot breed ſo ſoon, nor ſo much in it; and has himſelf ſome in good Order now, that were lain above thirty Years ago as Flooring-boards; for which Uſe, thirteen are commonly ſawed of ſolid Timber a Foot broad, but more for Barn-ſides, becauſe the thinner the Board, the leſs Power the Worm has.

A Second Way.

MAY be made uſe of in the ſmaller Sort of Beech Trees, whoſe Bodies do not exceed twelve or fourteen Inches thick; that firſt ſhould be hewn and ſquar'd, and Mortaiſes made ready for Plates, Chimney-Pieces, and alſo for Somers and Joyſts, *&c.* then they may be lain in Length and ſupported at each End, ſo that four, five, or ſix together may lie even and cloſe together about a Foot or two higher than the Ground; under theſe may Furzen, Fern, Straw, Shavings, or Faggots be put to burn all their Out-ſides till they have a thin, black Cruſt; this will ſo embitter the Wood, and roaſt out its Sap, that there will be but ſmall Encouragement left for the Worm to lodge and breed; becauſe the Worm undoubtedly has a Taſte, tho' an Inſect, and therefore will conſequently leave the tainted Wood, or die in it, and be prevented afterwards by this Extraction of the Sap, which is the prime Cauſe of their firſt Encreaſe. Theſe Somers and Joyſts will lie very well next a Fire, and where their Ends do not reſt on damp Walls; but be they any where, their Ends ſhould firſt be dipt in melted Pitch, as a Preſervative: I know of two Houſes that now have Somers and Joyſts of this Wood; in one they have lain fifty Years, as the Tenant ſays, and the other thirty.

A Third Way.

ACcording to the modern Practice, and, indeed, far the beſt it is, inſtead of cutting this Tree down in Winter, as the uſual Way has been, to fell it about a Fortnight after *Midſummer*, when it is reckoned in full Sap, or in its moſt flouriſhing State; for that then its Juices are at the thinneſt, and ſtrongly employ'd in Branches, Leaves, and Fruit; and then it is, the Body has the leaſt Share of Sap in it; therefore it will be much more run out, exhauſted, and dryed away by the Sun's Heat, than if fallen in Winter: Now the Benefit of this entire new Method is not a little; for it has been proved, that the Wood of a Beech Tree ſo felled, has endured much longer ſound, than that cut down in Winter; the Tryal was by letting both theſe Trees lie on the Ground in the open Weather; and in very few Years the Winter Tree was worm-eaten, and began to rot, when the other remain'd clear and ſound; ſo that the very beſt Way of all that is practiſed in my Knowledge, is to fell this Tree in Summer, and let it lie one Year abroad with the Rind on, ſometimes turning it; and then ſaw it into Boards or Planks, which muſt be laid in a Pond or River, three, four, or five Months, till the Sap is ſoaked or waſhed out: This will keep the Boards from warping in a great Meaſure, and cauſe them to endure forty or fifty Years on Floors, and againſt the Sides of Barns, *&c.* As to Capt. *Cumberland*'s Method (for which he has a Patent) of extracting the Sap out of Planks for Ship-building, by ſweating them in hot Sand; I can't ſay how it anſwers, becauſe I have not ſeen the Experience of it; But the Trencher-maker is ſo cautious of getting the Sap out of this Wood, that as ſoon as he has cut them out rough, he throws them into boiling Water, which directly brings out the Sap, and then they'll keep their white Colour, and be more free from the Worm; which otherwiſe would in a Month or two eat through their thin Subſtance.

Of the Management of the Beech, *in* Timber *Uſes*, &c.

THE beſt experienc'd Method, then, is to fell it in Summer, and ſaw it out directly for Timber uſe; for that a Tree ſo cut into Pieces, is brought under the Power of the Air much more and ſooner than when in one round Body; and then muſt be carefully preſerved from the Sun and

Wet under Cover; where the Sap will be ſooner dry'd out, the Colour kept in, the Wood harden'd, and the Worm greatly prevented; for 'tis certain the Sap of a Tree is in two different States in a Year: In Summer, a fluid, aqueous Body, rarefied by Heat; in Winter, a glutinous Conſiſtence, denſified by Cold, which has cauſed different Opinions about its Circulation: One Author aſſerting it to aſcend and deſcend gradually all over the Tree, as the Blood moves in the Body of Animals: Another, that the Sap in the North-ſide is not always ſo thin as that in the South, and therefore denies it that Regularity; and I have heard a Workman in this Wood ſay, that that Part of the Tree that ſtood to the South-eaſt Aſpect, rended or ſplit more trim and free, than the other contrary Sides; But however that be, 'tis allow'd, that the Sap is the immediate Cauſe of the Worm's breeding; which being of a moiſt Nature, all Dryneſs is an Enemy to it, and by Conſequence, a Conſervation of its Wood. In the late great Fire at *Ailesbury*, there were ſome Timber Plates ſaved, that had lain ſixty Years in one of the Houſes there, and ſhewn by an old Carpenter as thorough ſound Beech. So great a Friend is Cover and Dryneſs to this Wood, as has been obvious in a Chair that was made of it, which uſually was kept by the Fire, and is now in good Order at above thirty Years Old; when others that ſtood in a more dampiſh Place, rotted in ſeven Years. To avoid then the pernicious Effects of Dampneſs, that ſuddenly helps the Sap in the Production of the Worm and Rot; I here caution every one concern'd in laying a Barn Floor with this Sort of Wood, that they do not lay the Planks too near the Ground; if they do, they will ſurely rot in leſs than ſeven Years Time; therefore the beſt Remedy is to lay them on Somers and Joyſts, about a

Foot or two ſrom the Ground; ſor nothing decays it faſter than to let it lie wet and dry; ſeveral Farmers of late have laid it thus, dry and high, and yet have an eaſy Paſſage with their Cart or Waggon into the Barn, by a Riſing made of Boards, with croſs Ledges nail'd on the ſame, to ſtop the Horſes Feet, like that by which Horſes and Coaches get into Ferry Boats; or by a riſing Ground made on purpoſe for this Occaſion. Now there are two Ways of laying theſe Planks to threſh on, to hinder their opening at the Joints (which they are apt to do though laid twice) and letting the Corn thorough; one Way is, to lay one Plank a little over the other at Bottom, but this loſes too much of it; the other is to make a Groove in each Plank, and put in a Slip of Wood, like a Lath, which the Carpenters call Tongueing it; Some alſo ſaw the Boards of Beech Feather-edg'd for the Sides of Barns, as believing they beſt carry off the Water this Way. The Price of this Timber here, is ſix Pence the ſolid Foot; the Boards ſeven Shillings and ſix Pence a hundred, and the Planks for Threſhing-floors, two Pence Half-penny a Foot, both ſuperficial Meaſure.

Of the Seed, *or* Maſt *of the* Beech.

THE Beech excels all other Trees in Parks, &c. for the Returns it makes of prodigious Quantities of ſweet, healthful Maſt, which greatly helps to ſubſiſt the red and fallow Deer ſometimes, for moſt Part of the Winter, as I have ſeen in that of *Aſhridge*, near my Houſe, which is ſeven Miles about, and contains twelve or fourteen thouſand Head of both Sorts. The expreſs'd Oil of this Maſt, I have thought very pleaſant to my Taſte, and near as good as that of Olive, and is ſaid to yield two Gallons from one Buſhel; then if one hundred and eight Trees on an Acre, at twenty Foot Diſtance, were to afford five Buſhels on each (inſtead of fifty as ſome reckon) that would amount to five hundred and forty Buſhels, which, according to this Calculation, will produce one thouſand and eighty Gallons of Oil, that may very well be allow'd worth three Shillings *per* Gallon; and if only out of that Sum, one Shilling was to come clear to the Owner, what an immenſe Profit muſt here be to thoſe that have great Numbers of Acres of this Wood, beſides the Benefit of the Timber's Growth? Nor is the Hulls without their Value, for of this the Poor ſweep up great Store for their Winter Firing; and when the Maſt happens to be plentiful (which commonly is every ſecond or third Year) we Farmers generally get our Hogs almoſt half fatted, before we put them up for Bacon. The Leaves, if gather'd before the Froſt, and about the Time of their Fall, makes the beſt of Mattreſſes to lie under a Feather-bed, or otherwiſe, that will continue ſweet ſeven or eight Years, by their Tenderneſs and looſe lying; ſo that the Wood and Leaves make both Houſe and Bed, and the former the beſt of Firing; of which I have ſent ſeveral Stacks to Mr. *Roger Williams*, at his Houſe in St. *James*'s Street, who makes a great Conſumption thereof.

To raiſe a Beech Wood *from* Seeds *or* Sets.

THE Beech by its large Bud, diſcovers to the Country-man about *Chriſtmas*, that there will be a Probability of a Maſt Seaſon the ſucceeding Summer; and when the ſeedy Bloom out of this Bud ſhews itſelf, as it will ſometimes near an Inch or two long, with a Sort of rough Head, ſomewhat like a Golling in *April*, it is then a Confirmation, if the Extremity of Weather does not deſtroy it. Beeches are beſt raiſed from their Maſt, which are uſually ripe ſome Time in *October* or *November*, when they ſhould be gather'd and directly ſown, on Ground that has before been ſufficiently ploughed into a Fineneſs, and duly manured: But if this Work is deferred till the Spring, then the Seed muſt be laid in dry'd Sand, and not into that which is wet or damp; for then their Radicles will be in Danger of ſprouting before the ſowing Seaſon comes on, and that is when the great Froſts and Colds are moſtly over, which happens ſometimes in *February*. This Seed differs from all other Timber Sorts, in that it comes firſt up with the Seed on its Head, opening in two Parts like a Kidney-bean, then ſucceed two Leaves, and ſo proceeds; 'tis therefore that this Seed muſt be order'd accordingly; for as it is obliged to make its Way out of its native Mould, under the Diſadvantage of ſuch a large open Head, it requires a light, hollow Earth, wherein this Seed is ſown, otherwiſe it will lie and rot, as not being able to make its Way through; ſo that to ſow it in a ſtiff, clotty Soil, and to plough it in under Thorough, or to ſet it deep, is downright burying it, to the Owner's Loſs and Diſappointment: And as this Deſcription of the Seed, and Caution of its firſt Management, has been wanting in all Authors I ever met with; I ſhall therefore adviſe my Reader to ſow two Buſhels of this in its Hull, or without, on an Acre, broad Caſt, on broad Lands, well harrow'd in both Ways, on ſuch Ground, and at ſuch Time as is before directed; ſo that I ſhall not further enlarge on this Particular, becauſe what I have writ of the Acorn may ſuffice, in ſhewing the further ordering of this; I ſhall only add, notwithſtanding all that is, or can be ſaid of the ſeveral Methods, to get a Wood, either of Oak, Beech, Aſh, and many others, yet is there none ſo perfect and genuine as that which is raiſed directly from the Seed; becauſe no tranſplanted Set or Tree can poſſibly be taken from one, and replanted in another Earth without Violence done to ſome of its fine Capillary Roots, which has been the Occaſion of many ill Conſequences, too long here to enumerate; and therefore the Second-hand Way is only to be made uſe of, where the firſt can't conveniently be done; for 'tis obvious to common Reaſon, that the Root of any Tree has the moſt propitious Opportunity of making its gradual Growth from its Radicle or Sprout, that never afterwards meets with Oppoſition as tranſplanted ones do, that are not naturalized to the Ground; which is the Cauſe that their genial Roots puſh with more Vigour, grow ſtronger, and ſtand in Need of leſs watering, than the replanted ones do: Nor do I believe a Tree will be ſo good Timber, as that raiſed on the Spot from its Seed; and, for ought I know, it may be the real Reaſon, why the Elm that is generally tranſplanted, is often a more ſhaken ſhatter'd Tree in its Body, than any of the Timber Sort are. In that Part of the Country, remote from Woods of Beech, the Maſt of this Tree may be tranſplanted, where it may be ſown either in their Fields as aforeſaid, or in their Nurſery-beds, in ſhallow Drills well manured, as we do the *French* Bean; and this either in *October* or *February*, and afterwards tranſplanted into another Bed, at a Foot aſunder, till they are of ſuch a Bigneſs as is deſired, to plant out for good in a Hedge or Field: However, as I am now writing from a woody Country, where Beechen Sets may be had in many Places; I ſhall enlarge on the Propagation thereof, as being made uſe of by many here as the readieſt Way, particularly to raiſe Hedges with. In our Woods of Beech, ariſe ſpontaneouſly great Numbers of young Shoots, which about *October* (for that is the very beſt Time) may eaſily be drawn by a Man's Hand, eſpecially if great Rains have lately fell before; theſe, I ſay, may be had of any Size, but the beſt, in my Opinion, are thoſe of two Foot long; for then the Set has commonly a good Root, which a ſmaller one has not: Theſe muſt not have their Tops cut off, for then they will not grow, as ſeveral have experienc'd, that would not be convinc'd, till Tryal warranted the Truth; and of this Authors have hitherto been deficient in their Writings, but the Side-branches ought not to be cut off, till they are at a ſufficient Height, and not then cloſe to the Body; for the Beech either in Set or Tree, does not agree with the Edge-tool, like ſome others: This Order then to obtain a Wood by Tranſplantation, I propoſe to perform two ſeveral Ways: Firſt, let the Ground be well fenced, ploughed, and manured in broad Lands; then on this level Earth run a Line croſs the Field, and at every ten or twenty Foot Diſtance, plant one or more of theſe Sets on the Surface, and mould it up with a Border, putting a little Fern between, and ſome on the Top, leaving a ſmall Hollowneſs or Diſh about the Root, in the Manner Cucumbers are ſet in a Garden, for the Water the better to deſcend to the Root; and when one Row is done, then to move the Line to ten or twenty Foot further, and ſo on; theſe may be kept water'd and houghed, according to the Pleaſure of the Owner, and artificial or natural Graſs, enjoy'd in the Interſpaces, *&c.* Secondly, by the Plough, the Ground may be ſo gather'd into a four Thorough'd-ſtitch or Ridge, and on that may be made a Thorough or Gutter, by drawing the Plough once through the upper Part of it; in this may be planted at every ten or twenty Foot Diſtance a young Beech, and the reſt of the Stitch fill'd up in a Row with Sets of Hazel, Sallow, and other Underwood, but ſo that each Beech muſt be planted in one Row, againſt the middle Vacancy in the other Row that is to be at ſix Foot Diſtance: This Way will give an Opportunity to keep the Interſpaces, as I have ſaid before, clean, that the Roots may not be impeded by Weeds, and thereby better water'd by the Deſcent of the Land between the Rows, as may be ſeen at Sir *Thomas Seubright*'s Grounds, near *Market-Street*: By this Method, the Trees and Underwood are alſo better preſerved againſt Thieves; for here a cut Stick may be eaſily miſſed, when thoſe planted promiſcuouſly are difficult of Diſcovery, which has ſo encouraged this Sort of Rapine, that I have ſeen a young Beech of I believe twenty Years old, that was cut down, the Stump daub'd over with Dirt, and was carrying away on a Fellow's Shoulder, when I met him in the Wood.

But before I finiſh this Article of raiſing a Beech Wood by Seed, I add, that whenever this is to be done on the Side of a chalky or any other Hill; the beſt Way will be to perform it with the Help of the *Kentiſh* Wheel Turn-riſe Plough, and that becauſe this noble Inſtrument will plough all the Ground one Way, at going backward and forward, which none of our *Hertfordſhire* or any other Ploughs can do; and remember with this ſame to plough the Ground beforehand into a fine Tilth, well dung'd and manured. Then the laſt Time, ſow this triangular Seed clear of its common rough Hull, two or three Buſhels on one Acre broad Caſt, and plough it under Thorough; for that in ſuch a looſe chalky Land, this Way will help to make the young Shoots ſtand faſt, and preſerve the Seeds from Fowls, there being no Danger of burying the Seeds as in ſtiff flat Soils. The Benefit of this Operation conſiſts alſo, in that you turn all the Thorough downwards, that the common Ploughs turn both Ways; for if in this Situation you were to turn the Ground upwards, it would be apt to fall down again, and ſo ſpoil the Undertaking. This Sort of Plough, with moſt others, I furniſh any Perſon with to any Part of *England*, *Scotland*, or *Ireland*, at reaſonable Rates: But where the Beech Maſt Seed is to be ſown in a flat clayey or other ſtiff Land, then after the laſt Ploughing, and before the Earth is harrow'd, ſow your Seed broad Caſt on the rough Ground, and harrow once in a Place long Ways, and once in a Place croſs Ways; or if the Land is between ſtiff and light, then ſow half your Seed under Thorough, and harrow it in. —— Beech has no Heart, as being all alike in its Body; the Elm has Heart; the Oak has Heart; the Cherry Tree has Heart; the Aquatick has a little, but the Maple has none: Now if you ſoak Oaken, Cherry Tree, Elm, or other Boards in Water a Fortnight, it will make the Sap and Heart Part all of a Colour; nor can they be diſcover'd, unleſs the Plane new ſhaves them, which give a knaviſh Carpenter, or others an Opportunity of exerciſing a Fraud, by ſelling ſappy Boards for hearty Ones.

Of the Tranſplanting large Trees.

ON Commons, in Parks, and other Places where the Maſt can't be ſown, nor the Set commodiouſly planted, then a Beech of ſeven or eight Foot high, and three or ſix Inches Diameter is beſt; which to do, the Method that is ſet down for young Oaks will anſwer here: There are ſeveral of theſe planted on our clayey Green, with the upper Part of their Heads on, and only their Side-ſhoots trimm'd up, with one great Stake drove into the Ground and faſten'd with a Band to its Body, and then buſh'd up very well all round and high; but if they are to be planted on Chalks, then a Hole muſt be firſt dug, and good Mould put in it.

Obſervations on Tranſplanting.

WHere an old Beech has been fell'd, in order to raiſe another from the Shoot, that might ſpontaneouſly get up from the ſame Place, there has been ſeveral Panes of Paleing brought upon the Spot of Ground to encloſe it: But it has been found by Experience, in many Inſtances of various Kinds, that there are ſeveral Sorts of Juices or Qualities in the Earth, with which it is impregnated by the Original Creator, for the Nouriſhment of the many Sorts of Species that grow therein; each Particular having a Power to extract and imbibe the ſame, after his inherent Nature, peculiar to the Mode and Texture of its Parts, which has been evidently proved, both in Trees, Corn, and Graſs; for where an Oak, Beech, or Aſh has been fell'd, and another ſuffer'd to ſucceed in the ſame Place, by a Shoot from the old Root, or another of the ſame Kind tranſplanted in its Place; it will either be defective in its Growth, or elſe not grow at all, as is obvious in ſome of mine and others Grounds; ſeveral of which Sort I have cut down, and what moſt of our Country Carpenters are appriſed of, when they look at the Bottom of the Tree; therefore when one Sort has been fell'd the Root ought to be extirpated, and one of another Specie planted in its Room; and this Nature itſelf dictates to us, according to what happen'd to my next Neighbour, who planted a young Apple Tree where an old one had been felled, but it grew ſo ſlow, as provoked him to take it up, and put a ſtandard Pear Tree in its Room, which now flouriſhes to his Satiſfaction: The very ſame Reaſon accounts for the ſowing of Corn and Graſs: If

Wheat directly follows Wheat, and a Crop of Barley or Oats ſucceeds one and the ſame Sort of Grain; or if Clover was to follow Clover, they would certainly degenerate in a Degree, and prove a Loſs both of Coſt and Time; which is the very Cauſe why the Farmers in general find a Benefit in ſending ſome Miles for different Seed; and 'tis as certain, where an old Beech has been cut down, that the Ground about it is ſo impoveriſh'd by its long living in its Juices, as to make it barren to a Succeſſor of its own Kind.

To raiſe a Beech Hedge *by* Maſts *or* Sets.

BY Maſt, either in the Month of *October*, or in *February* or *March*, it may be ſown in a Drill almoſt cloſe to each other, and then the Earth cover'd lightly on the ſame, and over that ſome Horſe-litter to defend them from the Froſt and Sun, but not in too great a Quantity: This, I ſuppoſe to be done in a Bank of Mould, thrown up by making a Ditch of two Foot deep, and as much wide. But our common Method here is, to raiſe a Hedge by Sets, which is the quicker and readier Way; for of late it has been diſcover'd, that no Wood makes ſo ſtrong and profitable a Fence on chalky Grounds, as the Beech; becauſe this will grow and flouriſh there when others will not. It was about the Year 1718, that I planted about fifty Poles of Ground with Sets, and was eſteemed by proper Judges to be as fine a Hedge as ever they ſaw; for it was in ſome Parts of it eight Foot high, and ſo much Wood in it, as encourag'd me to make it laſt Winter, 1731, by plaiſhing it down. When I firſt begun making it, I proceeded thus, *viz.* as I throw'd up my firſt Spit of Mould, I planted my Sets of about two Foot long in the ſame, and ſo went on, planting them in a ſingle Row, as near together as their Roots would allow me; on theſe I threw the reſt of the Mould that came out of the Ditch, but in doing it I obſerv'd, with a great deal of Care, to lay, chamber, and ſpread their Roots, ſo that the Fibres might not touch one another, but be kept aſunder by the freſh Mould that was laid between and upon them, by which the Roots were bedded, and grew ſome Time ſingle in Virgin Mould, as is the Nature of the firſt Spit; and when the ſecond was laid on, ſome Horſe-litter ſhould have been put between the Mould on the Top, to keep the Froſt off, or the Sun from drying their Roots the ſucceeding Summer. In this Hedge I planted ſeveral white Thorn Sets, and both Sorts grew very well, having the two great Advantages of untry'd Earth, and a Ditch to receive the young Roots; the former by its rich, nitrous Quality, and the latter by ſhading, and watering the new ſpreading Fibres. I alſo took Care to pull up my Sets in an adjacent Wood, in a moiſt Time; for then ſo much Mould kept to their Roots, as to ſecure them from being dry, which I preſently tranſplanted (I think) in *October*, as the beſt Time in the whole Year; for then the Severities of Winter not being come on, the Roots directly ſtruck into the Ground a little, and thereby were capable of defending themſelves againſt the Extremities of Froſts and Colds. Sheep, nor any other Cattle muſt have any Acceſs to them, the firſt two or three Years; for if they have, it's very likely they will deſtroy them, by their biting the Top or Side-ſhoots, or elſe to rub them with their oily Wool, as to venom and impede their Growth; and theſe are not only an Enemy to the Beech, but indeed to all Sorts of Vegetables in their Youth, from the Oak to the Shrub; and ought more than ordinary to be prevented here, becauſe theſe being of the Tree Kind, inſtead of running expeditiouſly upright, will get a brouſy, buſhy Head, like the ſhrubby Sort, that now grows on *Wiggington* Common by *Tring*, occaſion'd at firſt by the Cattle's Bite, or the People's untimely Cutting, for here they have free Liberty at certain Times ſo to do; and then the Beech makes not a quarter Return of Profit, as they will if they get high enough out of the Cattle's Way with their Top-ſhoots: Upon this careful Management, while in its Inſancy, depends the After-ſucceſs of a Beech Hedge; even as it is with a Colt, who is check'd by being work'd too ſoon, will be ſhackled-hamm'd, ſtunted, and complain ever after; ſo will this, if bit at Top, or made too ſoon, before the Stems have Strength to endure the Chop of the Bill, and the violent Bendings of Part of their Bodies by plaiſhing down; nor will this Sort of Wood rightly endure making in froſty Weather, when by the Cut of the Tool, it will fly from its Stem; cauſed by the Saps being frozen into a glaſſy, brittle Subſtance; and alſo, becauſe the Beech is more ſpalt and ſhort in itſelf than many others be. By *Dunſtable Downs*, there was a beechen Hedge ſet about ten Years ago, but a great many died for theſe two Reaſons: Firſt, They planted them too late, that the Drought overtook them upon the dry Chalk: Secondly, They threw too much Earth upon their Roots, inſomuch that it kept off the nouriſhing Rains from coming at them in due Seaſon, and alſo much of the Sun's Heat as was neceſſary to make the Rain more healthful to them; ſo that this lies in the Diſcretion of the Planter, who, to aviod Extreams, muſt endeavour to lay on ſuch a Quantity of Mould, as will in a medium Way let both Rain and Sun in. This Beech Hedge will alſo proſper in Clays, Loams, and Gravels, and in moſt other Soils, except in wet, marſhy, and low vale Grounds; here, indeed, the Aquatic claims the beſt Pretenſion, as out-doing all others in Quickneſs of Growth. I am very ſenſible of the two Objections againſt a Beech Hedge; the firſt is, that after its firſt making, it will not grow ſo faſt as others, as having to be check'd of its Tree Growth. To this I anſwer, That conſidering it will grow on a Chalk, where nothing elſe will thrive ſo well, it ought to be preferr'd. Secondly, That as it is of the Timber Tribe, it is apt to ſtart and bulge out in its Plaiſhes, and ſo become hollow, that Sheep may get in. To this I anſwer, That it is true, as it is of the Tree Sort, it is apt to get out of the Courſe its Plaiſhes were firſt laid in; but when this Hedge is made by a judicious Hand, it will in a great Meaſure be prevented, by obſerving that theſe Plaiſhes are not left too thick in Subſtance, where the Chop or Bend is made, for if they are, then by its Strength it will raiſe itſelf up; but when at the Cut or Bend of the Plaiſh, it is left thin and ſlenderer than generally other Wood is, it will lie in its due Order; and if white Thorn is made every ſecond Plant, it will ſo fill up any Hollowneſs that may happen on this Account, as to prevent thoſe Inconveniencies; and if the Owner thinks fit to let any Maſter-plant ſtand to become a Tree, he has here that Opportunity, by ſingling them out, and letting them keep their Tree Growth. Before I conclude this Chapter, I have only this to hint, that a Carpenter who was to lay an Oaken-thraſhing Floor, put half the Planks into Water, two or three Weeks to ſoak out their Sap, and then laid one that was not wetted near to another that was, to prove the Difference; it happen'd that at fifteen Years End, that the ſoaked ones were as ſound as at firſt, when the others were very much rotted.

CHAP. VIII.

The Nature and Improvement of the ELM.

THE two Sorts of Elm I here write of, is the Common Elm, and the Witch Elm, without taking further Notice of the *Dutch*, than that it is inferiour to both theſe in its Returns of Value; or of the Seed of this Tree, which is ſo much diſputed by Virtuoſo's, otherways than what it is allowed by ſome of our obſerving Country Farmers, to fall from the Tree ſomewhat like a Butterfly's Wing in *April* or *May*. But as I never knew it practiſed, to raiſe Elms by Seed, I ſhall inſiſt on the common Method of propagating them by Sets, and tranſplanted young Trees.

Theſe Sets are generally got out of Hedges or other Places, from the Bottoms and Sides of the Elms, but better and in more Abundance after an old Tree has been lately fell'd; which ſhould be drawn very carefully in wet Weather in *October*, when the Mould about them is in a looſe Condition; for then it is we have the beſt Opportunity, without forcing or ſtraining their Roots, which certainly is a great Hindrance to their future Growth; and not only this, but all other Vegetables whatſoever ſuffer upon this Account: And I have often ſeen the very Skin, or Rind of the young Roots left behind in drawing, and then they'll never grow, at leaſt never make good Trees; ſo that where they can be dug up with the Spade or Mattock, and ſome Mould preſerved about them, they are then in a true State of Tranſplantation; and where they can only he had very ſmall, they may be enlarged by planting them in a Nurſery-bed, ſery-bed, a Foot aſunder, in Rows two Foot Diſtance, there to remain two or more Years, till their Bigneſs anſwers your Pleaſure; and then only to make uſe of the beſt rooted ones, whoſe Side-branches in the Nurſery have been carefully pruned from Time to Time, which gives the Root more Power to forward the Growth of the Body and ſingle Head, than if there were a Number of lateral Shoots: And next to this Caution, is another as neceſſary; that the ſmall Fibres, or Roots of any Set muſt never be ſuffer'd to be dried before they are tranſplanted, leſt it prove fatal to them; and this I ardently preſs, becauſe I am ſenſible, the Want of Care in this particular Article, has not only been the Ruin of many attempted Plantations, but has deterr'd others from the like laudable Deſign; and therefore, in caſe the Sets are got at ſome Diſtance, I adviſe, the ſmall Roots be directly ſoaped as ſoon as drawn, which will preſerve their native Moiſture in them, till they are again replaced in the Earth; or elſe to wrap them up in a Bundle of wet Straw, or in a Sack; the firſt of which Ways will keep them in good Order, if ſent by the Carrier one or two hundred Miles.

This Wood in particular is ſo prone to grow, that if an Arm, or Piece of its Head, from four to fourteen Foot in Length is buried in a Ditch or Trench, well manur'd before-hand, and cover'd ſhallow with Mould, it will grow; provided it be done when the Leaves are coming out, for then the Sap will run into Shoots; and alſo, if a Place or two are left open in ſuch a Piece for the Shoots to come out at, as we do to encreaſe our Sallows, *&c.* in Hedges and Woods.

But to be quicker in the Enjoyment of this Tree, young ones are often bought of the Nurſerymen, ſeven or eight Foot high, and three Inches Diameter, more or leſs; or if they are as big again, they are better; which when well rooted, and ſafely tranſplanted according to Art, they will, in about ſeventy Years Time, be at their full Perfection; to accompliſh which, take the following Directions.

If this Tree is to be planted in a Hedge, it may at the making of it be put into the Ground, at ten or twenty Foot Diſtance, or as near as you pleaſe, for of all Trees, I never ſaw ſo many grow ſo large, and flouriſh in ſo little Room as theſe will, even almoſt cloſe together; as may be ſeen about thoſe Graſs Encloſures, at the Bottom of *Ivinghoe* in *Bucks*; which fertile Property of the Elm, I take to be owing to its being kept under a narrow Head, that is more agreeable to this Tree, than the Oak, Beech, or Aſh, or by its natural growing ſo, or from its ſucculent, juicy Quality, with which it abounds more than any other Timber Tree; and if I am right, the Bark of this Tree is rougher, thicker, and more ſpungy than any other, which cauſes great Quantities of Water to lodge therein; for it is ſeldom ſeen that the Water runs down this Tree like another; and therefore 'tis probable, that the Elm receives a greater Share of Nouriſhment from the Rain, than any other Timber Tree doth; beſides, as it is a Tree that bears no Fruit, its Sap is wholly expended in the Production of Wood and Leaves.

The Elm, as it affects a damp or wettiſh Soil, more than any of the Timber Sort, its Wood is of a more ſpungy, ſoft, and tough Nature, which makes it excel all others in Pipes, Pumps, and other Water-Works, will lie two or three Years abroad, without ſuffering by Worm or Sun; and in that Time, the Sap will become reddiſh like the Heart, which fits it the better for making Bowls, and other hollow Ware, that will laſt longer of this Wood, and ſell for more than either Beech or

Aſh; Dreſſers alſo, and Blocks of Elm, will not break away by Chops, nor will their Stocks in Wheels ſo ſoon crack and ſplit, as other Wood will; it hardly refuſes any Ground, for even in the moiſt, clayey Chalks, this will grow, but not in the dry, hurlucky Sort, and beſt in the black moiſt Loams; on all loamy Clays, wettiſh Gravels and Sands, and in many low, watry Places. They are at this Time much in Faſhion, for making Avenues and Viſto's to Gentlemens Seats, where they will, the beſt of any, permit their Heads and Sides to be cut into Diverſity of Forms, which taking up but little Room in the Air, affords a fine, green, and laſting Proſpect; but the main Matter is to plant and preſerve this Tree aright: To do which,

In caſe it is on a Graſs Ground, pare off the Turf thinly, for two, three, or four Foot Diameter, more or leſs, as your Tree is in Bigneſs; put that by itſelf; after this, put the Turf the Graſs-ſide downwards, all over the Bottom of the Foſs, and the Mould over that: Upon this Surface plant and bed the Roots of the Tree; then bring more Mould, and raiſe a Border ſix, or twelve Inches high, according to the Spread thereof, putting Horſe-litter or Fern between the upper Mould, and leave it diſhed or hollowed on the Top, and alſo ſome on the Top of the Border, all the next Summer to preſerve its Roots from the too powerful Rays of the Sun, except the Tree is planted in a low moiſt Ground; then, indeed, ſuch Top Cover may do more harm than good, by hindring the Earth about the Tree from enjoying a free Perſpiration, which is perfectly neceſſary to the Growth of all Vegetables.

The next Thing is to ſecure the Tree from Cattle and Winds, which to do, I think it is not enough to ſay —— Stake or Buſh it up —— Theſe are inſipid Directions; but on each Side of the Tree, about a Foot from its Body, drive a thicker Stake into the Ground, than the Body of the Tree is, ſo that they may be four or five Foot out of it; then nail Ledges or Croſs-bars againſt each other, two at Top and two at Bottom, and ſtuff ſome Graſs or Hay between the Bars and the Body of the Tree, to keep it from galling; and then draw Thorn-buſhes perpendicular through the two Pair of Ledges, letting the Top of them remain two or three Foot higher than the upper Bars, the better to keep Cattle from rubbing. This Method will not only ſuſtain the Tree againſt Winds, but all other Injuries from Beaſt and Vermin; here likewiſe is free Acceſs for Water, or Weeding, and for Houghing, if that is thought proper. This Repetition I have again inſerted, that it might be better remembred for its great Uſefulneſs.

I planted a Burgamo, Standard Pear Tree, that I bought of a Gardener for one Shilling, juſt after this Manner, about four Years ago, on a gravelly Soil, on the Baulk or Hedge-green of a ploughed Field, near half a Mile from any Houſe, where it was never yet water'd by me, and yet I think it is as flouriſhing a Tree, as moſt in *England* of its Age: But I muſt needs ſay, where a Well can be conveniently ſunk, not exceeding thirty Foot deep, there an Elm Pump may be placed to ſupply by a Water-cart, and Leather-pipe, the Growth of this new Plantation, and then it is likely they will get the Start by much of thoſe Trees that are not thus artificially water'd.

If it is arable Ground whereon you are to plant theſe Elms; then it ſhould be firſt manured very well with old rotten Dung, and ploughed ſeveral Times, till it be got into a perfect Sweetneſs, Hollowneſs, and Fineneſs; on this plant the Trees even upon the very Surface; and then bring good

Mould, and raiſe a Border after the ſame Manner as before directed.

Such a Plantation may be contrived to great Profit, by planting the Trees in regular Rows, in *October* or *February*; and the Ground about them laid down with Graſs, and not imploy'd in Grain, which, in my humble Opinion, is far preferable, as I have found by Experience; becauſe this will feed Sheep, whoſe Dung and Stale is of moſt Virtue in the Nouriſhment of all Trees, and are leſs capable of hurting them by their Rub, than Horſe or Cow; but then eſpecial Care muſt be had that they can't come at the Body of the Tree with their oily Wool; Nor will the Roots of this Tree exhauſt, and draw away the Goodneſs of the adjacent Earth, as an Aſh or Oak will, whoſe Roots run both deeper and broader in the Ground; but affords a pleaſant, healthful Shade by its Head and Body, to the Cattle about it; free from thoſe voracious and infanous Qualities, inherent to the Oak, Aſh, and Walnut. Theſe Trees then ſo planted (with their Heads cut off, or ſome left on, as the Proportion of their Roots will admit of) will amount to one hundred and eight on an Acre, at twenty Foot aſunder, which at their full Growth modeſtly may be computed worth forty Shillings each, at one Shilling *per* Foot, though the current Price is from ten Pence to eighteen Pence, according to the Clearneſs and Goodneſs of the Body; which with the Benefit of the Graſs between them, muſt amount to a brave Sum in that Time; conſidering ſuch Land whereon they are planted, may not be worth ſix or eight Shillings an Acre; and indeed it is Pity that more Hedge-rows are not planted with Elms; becauſe, as I ſaid before, they don't damage any thing about them, as ſome other Trees do, whoſe Heads muſt not be trimm'd up as theſe may, and yet ſo profitable, as to be worth in

Time five or ſix Acres of Land, that they may thus encloſe.

This Tree when aged, or otherwiſe requiring a Renovation, by cutting off its Arms and Head, they then ſhould be cut cloſe to its Body, elſe the Stumps in Time will become rotten, and convey the Water too freely, even to the Heart of the Elm.

As the Elm is not a proper Plant for raiſing entire Hedges to fence our Field with, I ſhall deſiſt enlarging thereon, as being a Subject rather belonging to the Gardener's Province, where it is now more agreeable in Hedges for Walks, Avenues, *&c.* for, according to the Proverb, A Shoemaker ought not to go beyond his Laſt: 'Tis therefore that I think a Gardener and Farmer are different Profeſſions, altho' their Buſineſs has an immediate Concern in Vegetables, and I believe are equally Strangers to each others Affairs.

Elm Boards to dry ſoon were cut in *March*, and laid a Month in Water: Others were kept out of Water and dryed, they were both laid on one Floor before Harveſt Time; the unſoak'd ſhrunk, when the other did not; ſo that to have them ſoon and thorough dry'd, ſoak them firſt. Elm is more profitable to plant even in a wettiſh Vale Ground than White Wood: A Perſon in the Pariſh of *Ivingboe*, in *Bucks*, planted an Elm himſelf, and at ſixty Years old he cut it down with a hundred Foot in it, that he ſold at one Shilling *per* Foot. He alſo planted a White Wood Tree, that at ſixty Years End was as big as the Elm, but it was hollow about three Foot from the Root, though all the reſt was ſound. It is true, that a White Wood often out-runs the Elm; but then as the latter ſells for one Shilling a Foot, when the other but for ſix Pence, the Elm is the moſt valuable to the Owner. —— An Elm ſtrikes his Roots as deep into the Ground as an Oak, with ſometimes one Fork, ſometimes two or three, and therefore does not impoveriſh the Land like an Aſh, that ſpreads more its Roots, and runs up higher than any other. The Elms Roots, eſpecially in Winter, are the moſt ſlimy of any; a Man dug twelve Foot to come at the End of them, but he gave over his Search in Deſpair; this was in a gravelly Soil at *Frithesſden*, in which Sort of Ground, it grows the more ſpalt or brittle of any, inſomuch that the Wheeler is apt to refuſe buying it to make his Stocks of Wheels; becauſe it often ſplits in ſtraining, when that which comes off clay Lands will not: It alſo grows more hollow here than in the red Clays, and ſo it does in their marly ſoft Earths. —— An Elm was cut down in Winter, and at the next Spring it threw out young Shoots all over it. —— If the Top of an Elm is no broader than the Head of a Broom, it will grow as well as if it was ever ſo large, which makes them right to grow in Hedges, where at a moderate Diſtance they'll do no harm; for this Reaſon it is, that many, when they plant young Elms, put their Roots into the Ground with a Body twelve Foot high, the Side-ſhoots trimm'd pretty cloſe, and the Head very narrow. —— The Owner of a conſiderable Eſtate in *Oxfordſhire*, told me, he was ſure an Elm would not grow ſo faſt in wet Ground as an Oak. —— Elm and Maple are firſt out in the Spring, and their Sap will run out of their Roots at any Time in Winter if cut.

CHAP. IV.

The Nature and Improvement of the WITCH ELM.

THIS Tree is a moſt proper one to grow in Parks, becauſe of its agreeable Bark, which the Deer greedily eat in Winter, and have ſo great a Love for it, that they will ſtring it with their Mouths to the laſt Bit, and prefer it to the Aſh, Thorn, or any others: It is a Tree that grows to a great Bigneſs, even to four or five Foot Diameter in its Body, and will proſper either in Standard, Pollard, or in Stems, in Copſes or Hedges, where they will grow in many fine, high, ſtrait Poles, and ſhoot expeditiouſly and large: The Wood of this Tree is tougher, and more durable, than the common Elm, and ſerves to make Coach-footings, Gates of Fields, Somer and Joyſts, *&c.*

This is reckon'd as faſt a Grower as any, even the Sallow itſelf; for it ſpreads its Roots near the Surface like an Aſh, in Clays, Gravels, and Loams; throws up Plenty of Suckers, like an Aps or *Dutch* Arbel, which is alſo a Quality incident to the natural Elm.

CHAP. V.

The Nature and Improvement of the ASH.

THIS is a moſt uſeful Wood to the Coachmaker, Wheeler, Cooper, and Numbers of other Artificers, and is one of the quick Growers;

becauſe its Roots, if high enough planted on the Ground, will run and ſpread in the uppermoſt Part of the Earth, beyond any other; and therefore it's become a Rule amongſt the Judicious, not to plant or ſuffer any Aſh to grow near any ploughed Ground, becauſe of its voracious Nature, and the great Suction it makes in drawing out the Goodneſs and Heart of the Ground, to the depauperating the Land, Corn, and Graſs that is in reach of his horizontal Roots; and yet this Evil is very common, but chiefly owing to the Ignorance of the paſt Age; however, it has ſo deterr'd many of the preſent, that they abhor the Sight of an Aſh that grows near the Corn Grounds; wherefore, to avoid the Curſe, and enjoy the Bleſſing, the beſt Places to procure the Growth of Aſh, is in Foreſts, Woods, Coppices, Parks, and Commons.

To get a Wood, or Copſe of Aſh, it may be done three ſeveral Ways. Firſt by ſowing their Seeds or Keys (that have been preſerved all the Winter in moiſt Sand, to keep them from ſhriveling) over a Piece of well manured and ploughed Ground, which muſt immediately be ſown over again with Barly: Theſe two will ſo well agree, as not to hurt each other; for the Aſh will not appear till the ſucceeding Spring, ſo that the Barly may be got off as at other Times; after which, the young Aſhes may be houghed and thinned at Pleaſure.

Secondly, But which I think is much better, when the young Aſhen Trees are ſown, there may at the ſame Time be ſowed both Acorns and ſweet *Portugal* Cheſnuts; theſe likewiſe will be of hardly any Prejudice to the Corn, becauſe in the firſt Summer, they'll only be employ'd in ſtriking Root, under the propitious Shade and Shelter of the Barly; and if a little of the Seeds of the Acorn or Cheſnut ſhould appear at mowing Time, the Scythe may eaſily paſs over them: Now theſe two Sorts are certainly the propereſt to keep the Aſh company, by Reaſon they ſtrike their Tap or Maſter-roots very deep into the Earth, to ſeek their Food in a different Manner from the Aſhes, that may be left at five Foot Diſtance each, and then one thouſand ſeven hundred and ſixteen will grow on an Acre of Ground.

Thirdly, If it is thought better to get a Wood from the Set, or young tranſplanted Tree; then the Keys may be gather'd in *October* or *November*, and directly ſowed on fine Mould in a Nurſery, and cover'd an Inch or two deep with Earth; the ſecond Spring following they'll come up, and afterwards may be tranſplanted in another Bed, and ſo brought up to your Deſire: But here we gather the young Sets out of our Woods, about a Foot, or a Foot and a half long, or more, and tranſplant them forthwith: In this Management, great Care ſhould be taken to get both them and the Keys from the Female-aſh, becauſe that grows much ſooner to a large Body than the Male; now the Female has generally a clear, white, ſmooth Bark, but few or no Keys, and loves low Places: The Male has a rougher, knottier Bark, and harder Wood, has more Seed, and is more tedious in its Growth. It was about ten Months ſince, that an Acquaintance of mine bought an Aſh at *North-Church* Common, that contained ſix hundred Foot, four hundred thirty-eight of which, he paid one Shilling *per* Foot for.

Now the Method of planting a Copſe Wood, I have ſeen in a Gentleman's Ground near me; firſt they manured it very well, and ploughed it into a fine Tilth; then they gather'd it with the Plough into Ridges, at ſix Foot Diſtance, whereon in *October* they planted Aſhes, at twenty Foot aſunder in Lines, and Oak, Cheſnut, Hazel, Sallow, in the ſame Row cloſe together; the Aſhes were about eight Foot high, the reſt ſmall Sets; theſe all drawing their Nouriſhment from the Earth in a Manner peculiar to each other, does not ſo depauperate it, as if they were all of one Kind, notwithſtanding they fill all the Surface with their Roots; and therefore a Copſe Wood promiſcuouſly planted, will endure much longer than if it was all of one Sort; and here is an Opportunity allowed between the Rows, for the Hough to be employ'd, and the Ground kept clean from Weeds, and Manure laid in the Interſpaces, to the great Improvement of their Growth; and by this the Trees will force one another into the Air, cauſed by their cloſe Planting; where, by the Drip of their Heads falling upon their Under-ſhoots, and the great Cover they are ſhaded with, their lower Arms will be killed or ſpoiled, ſo that their Sap will be chiefly employ'd in the Growth of their Bodies and Heads; and then the Underwood will be fit to fell in nine, twelve, or fifteen Years, as it is wanted in Bigneſs; the proper Time for which, is from *November* to the Beginning of *March:* But here I muſt take Notice of a pernicious Neglect, that too frequently happens to the Aſh Poles, which are generally put together after they are cut into upright Parcels in the Wood, and there let remain till they are ſold: Now if they are not carried away before *March*, a little black Fly, that comes in Swarms about that Time, or in *April*, will ſeize on and penetrate into their tender Bark, and there in a little Time become a ſmall Worm, that afterwards will gnaw the Wood in Rings, ſo that the Cooper cannot bend them for Hoops; but when the Fly has but juſt taken them, the Cure is to throw them into a Pond, and let them lie two or three Days, till they burſt and die. But the beſt Prevention of all, is to keep them in Cover preſently after they are felled.

Of the Pollard Aſh.

ON Commons, in Parks, or in any other Graſs Grounds, this Tree has an Advantage of all others from its many and long Roots, which by their circular ſpread, and high lying almoſt on the Top of the Ground, are more than ordinarily capacitated to receive the fertile Benefits of the Horſe, Cows, Deers, and Sheep's Dung and Stale, which is more or leſs obtain'd as the Situation of the Tree, and its ſheltring Tread invites the Cattle to ſhade themſelves under it. The Pollard Aſh is that which is made by cutting off the Standard's Head, and ſhould be lopt for that purpoſe, before it arrives to a very great Body; elſe the Wets will be very apt to get in between the Rind and the Body, before the Wound can obtain a new Covering, and ſo rot and periſh the whole Tree in a ſhort Time; and afterwards all Lops ſhould be cut off the Head of the Pollard, at nine or almoſt at twelve Years End, before the Shoots get too big; for certainly the younger they are cut off, the ſooner the Wound is cover'd, and the longer it will continue in a healthful, bearing State; but it has been obſerved that the Aſh, as well as all other Sorts of Pollards, grows ſlower in its Body, than they did when Standards; becauſe the Sap which ſhould cauſe its Bulk, is employed in nouriſhing new Shoots. This Lop, when green, burns the beſt of any, which makes the Country Folks rhime it, and ſay, *It's Fire for a Queen.* It is alſo of vaſt Service among Deer, eſpecially in hard Weather, when it ſerves as a Sort of Subſiſtence to them; for on its ſoft Bark, both they and the tender-mouth'd Heifer, will bruiſe and peel the Arms and Boughs quite clean.

If you cut off the Head of a young Aſh to make it a Pollard, it will grow larger in its Body afterwards, but not ſo faſt as if its firſt Head was on. —— If you cut an Aſh down in the Spring, when the large black Bud is on it, the Body will rot into Powder in little more than a Year's Time, which ſhews that Winter felling is beſt for this Tree. —— An Aſh has the biggeſt Veins of any Tree, and a Heart and Sap Part like an Oak. Some are of Opinion, that an Aſh is beſt fell'd between *Allhollantide* and *Chriſtmas*; becauſe it is the firſt and forwardeſt Sap that ſtirs. If fell'd when it is in Motion, it will be red between the Bark and the Body.

Of Aſhen Stems.

IN many Hedges, Numbers of theſe are ſeen to grow, as the Succeſſors of cut down Trees, but whether they are here by Caſualty, or planted on Purpoſe for this Uſe, it is wrong Management; for theſe Shoots that grow directly from the Stem, rob their Neighbour Plants ſo much by their luxuriant Roots, as to impede and hinder their keeping Pace in Growth with them, which cauſes its Head to ſpread, top, and drip on them to their great Prejudice: It is theſe that are more coveted by Cattle, beyond any other in the Hedge, and therefore more liable to be cropped and ſtunted, which obliges us to preſerve them for the firſt two Years after cutting, till they are out of the Cattle's Reach, though at beſt they make but a hollow Part in the Hedge, and often give Room to Sheep and other Beaſts to find a Paſſage into neighbouring Grounds; ſo that the Aſhen Stems are indeed fit to grow no where elſe but in Woods and Coppices, and here they turn to a great Account, in the Production of the beſt of Poles for the Coopers and Chair-makers, by letting them ſtand eighteen Years, which is twice the Time that is allowed to Sallows, Hazels, Maples, *&c.*

Of the Standard Aſh.

THIS is ſtill more pernicious in a Hedge than either the Pollard or Stem; for this, by its uninterrupted Growth, gets a greater Head than the reſt, and ſo is more capable, by its venomous Drip, to damage all others that are contiguous and inferiour to it. But here the ill Property of the Aſh does not end, for its Leaves are of ſuch a diſagreeable Nature (I can't ſay how unwholeſome) that I have known a conſiderable Quantity of Stout-beer ſpoiled, by brewing with Pond-water wherein its Leaves fell; and notwithſtanding the Beer had above a Year's Age, yet neither that, nor the Strength of the Hop, were able to take off the Leaf's nauſeous Taſte.

When this Tree by Miſtake has been ſuffered in a Hedge, or otherwiſe, to grow ſo near the ploughed Ground, as to prejudice the Land and the Grain that grows thereon, by it Roots; then the beſt Remedy next to its total Extirpation, is to dig a narrow Ditch, and with a Mattock to cut off all its Roots to the outſide of the plowed Ground for about a Foot or two deep, which is full enough; becauſe at a greater Depth, they can't hurt the ſuperficial Part of the Earth; then fill in the ſame with the Mould that came out: Thus you may keep any Aſh from hurting the Land, eſpecially if there is a Baulk of Graſs between the ploughed Land and the Body of the Tree, as there is in moſt of our *Hertfordſhire* Incloſures.

And notwithſtanding this Tree is known to ſpread beyond all others, yet ſome of its Roots have been found to run fifteen Foot deep into the Ground, and will, like moſt others, grow faſter in the beſt Earth, which it will infallibly peel, though it will grow in moſt Situations, from the Tops of Hills, to the Flats of Vales; and where a knotty, ſound Tree happens (as they often do) to be well grain'd, they are of conſiderable Worth to the Cabinet-maker.

The Seed that is in the Keys are flat, ſomewhat like that of a Cucumber, and is carried by the Winds, the Diſtance of ſome Poles from their Trees; but this is not all their Conveyance, for theſe Seeds being much loved by the great and ſmall Birds, are by them carried to diſtant Places, where they peck out ſome and ſcatter the reſt; and in this Manner they have been known to ſeed a Piece of Ground at *Dagnal*, near half a Mile of the Wood where the Trees grow: Some again have enjoy'd Plantations from the Seeds that were blown by Winds; others have had the Benefit of ſome thouſands of Pounds from their Produce, and all of their own planting.

The Rinds and Tops of the young Aſhes, even when the Trees are a Foot Diameter in Body, are ſo coveted by the red and fallow Deer, that large, high Rails are frequently put up in Parks, Forreſts and Chaces, as Guards againſt theſe arch Enemies; Sheep alſo will debark the young Trees and Shoots in Hedges more eagerly when they are fatting on Turneps, as being a cool, refreſhing Food, contrary to the hot, bitter Turnep. The Mice too, tho' a ſmall Creature, are great Deſtroyers of the young Aſh at all Times, but more in Snows, for then the Woodmen have obſerved that they have peeled an Aſh, from the Thickneſs of a Thumb to a Fork-ſtale, a Foot above the Ground.

CHAP. VI.

The Nature, and Improvement of the WALNUT.

THIS Tree, for the many Uſes its Wood and Fruit affords, deſerves the Preference to ſome others for a Plantation; and now more than ordinary, becauſe of the great Numbers that are frequently fell'd for the Lucre of the Money that their valuable Bodies raiſes to Succeſſors of better Husbands than themſelves; their Price being from one, to two or three Shillings the ſolid Foot, according to the Fineneſs of its hearted Grain, in Trunk and Root at forty or ſixty Years old, when theſe Trees are generally at their full Perfection; and ſometimes one of them are ſold to the Cabinet-maker for thirty, forty, or fifty Pounds; and as the Root is often a valuable Part of this Tree, it ſhould not be ſawed or cut down at Bottom, but ſtock'd and grubb'd entirely up. Nor is the ſappy Part without its great Uſes in Stocks of Guns, Chairs, Wainſcot, and other Works, that the ſeveral Artificers make exquiſitely fine, when done over with its own Oil very hot, made by Expreſſion of the Kernels, that are ſaid to yield three Quarts from a Buſhel of its Nuts; theſe may alſo be preſerved for eating, in cover'd Pots put into the Ground, ſo that the Wets can't annoy them, and then they'll keep nine or ten Months, and eat near as well as at firſt; or if they happen to be dry, it's only putting them in warm Water a little while, and the Kernel will ſwell, and be almoſt as good as ever.

Their Sorts are two, the *Engliſh* and the *French*, the latter is a large, thick-ſhell'd one, and is beſt for pickling and preſerving; the former a ſmaller Sort, but much ſweeter kernell'd, and may be planted in Graſs Grounds at forty or ſixty Foot Diſtance, by taking off the Turf and laying it by itſelf; then take the next Mould a Spit deep and put that by itſelf; then put the Turf the Graſs downwards, and the Mould that came out on that; in which put four or five Walnuts ſo far within the Earth as it may juſt cover them, if the Diameter of the Hole is three or four Foot: Theſe Holes thus made and planted, muſt be ſecurely fenced by outſide, general Railing the Field in, or particularly round each Hole, ſo that there may be free Acceſs of weeding them; afterwards the Maſter-plant may be left as a Standard-tree, that in Time will make both pleaſant and profitable Walks; and thus this Tree will by far outgrow all tranſplanted ones, as I have to my Coſt experienced; for it is now near twelve Years ſince, that I was tempted to purchaſe a Parcel of about twenty Years old of a Nurſery-man, ſome of which, to the beſt of my Belief, as big then as now in their Bodies, notwithſtanding I planted them in a rich Loam, and three Years ago cut their Heads off, leaving at the ſame Time a few Shoots on, to draw up the Sap; ſince which they have ſhot very ſtrong, and now are like to make fine Trees: But if the Nut had been thirty-two Years ago put into the Spot of Ground where they now grow, I doubt not but they would have been a Foot or more in Diameter of their Bodies, which are not above ſix Inches in the biggeſt of them.

Or if they are to grow in ploughed Grounds, then it muſt be well manured and ploughed fine, before the Nuts are ſet in at Nature's beſt Time, which is as ſoon as they are full ripe; or if kept till Spring, they muſt be preſerved in Sand all the Winter, and by ſome they are ſteep'd a while in Milk, juſt before they are planted in *February*, and then they will agree and thrive beſt in marly Grounds in the Vale; and alſo will grow in Chalks, Gravels, and Loams, and in moſt Situations. And as I am now writing of planting Walnuts in ploughed Grounds, it is neceſſary to mention the great Inconvenience that attends the ploughing of the Ground between them, which by Conſequence muſt happen, altho' the Trees be at eighty Foot Diſtance, and that from the often Paſſings, and near Approaches of the Plough, Horſes, and Harrows: And here I will appeal from the Theory Writer, to the Man of better Judgment, Whether the Roots of ſuch a Tree, that is to run even with, or juſt under the Surface, can make its horizontal Roots, and not be impeded by the often Repaſſings of the Plough, that ſhould penetrate the Earth with its Coulter and Sharr, a Foot deep at leaſt in ſome Sort of its Operations? If it ſhould be objected, that at that Diſtance they need not come ſo near as to hurt them: I anſwer, That ſuch a Plantation is liable to be hurt by ſo many Accidents that may happen from the Horſes, Ploughs, Carts, End-turnings, and careleſs Drivers, as is enough in my Opinion to diſcourage any ſuch Undertakings; I muſt own I have ſeen ſome ſuch Practice in the old *Kentiſh* Orchards; but it muſt needs be, where Trees have been planted too deep at firſt, for want of better Skill, which is the Reverſe of the preſent Management; and therefore I adviſe all ſuch Ground in the Interſpaces, to be ſown with Clover and fine Meadow Hay-ſeed, *&c.* in order for making ſuch arable Land a good Sward.

So alſo for that wrong Notion of planting theſe Trees in Hedges, contrary to the Rules of good

Husbandry, as is well known to thoſe Occupiers of Farms, whoſe Intereſts are concerned in the Returns of their Wood and ſafe Fencing, that the thick, tall Growth of the Hedge is the ſole Occaſion of: Now both theſe great Benefits I will prove are in Part deſtroy'd by ſuch Trees; for, firſt, the Drip of all Heads of Trees are more or leſs pernicious to the Under-ſhoots, as they are narrower or broader, and of a good or bad Sort; this is often viſible in the thicker Woods, where the lower Arm (as I have ſaid before) and Branches are rotted by the Shade and Fall of Water from the upper Boughs, ſo that only the Top Part of the Tree thrives, that enjoys a free Air and Sun; and thus it is in Proportion with all Hedge-wood, that is under a Tree's ſhady, dripping Cover.

Secondly, The Roots of all ſuch Trees, by their Bigneſs and Extent, have a ſuperiour Power to imbibe and attract the Fertility of the contiguous Earth, whereby the Underwood is hindred in its Growth; and here it is that Cattle takes the Advantage of ſuch weak, crippled Boughs, to make a Breach into neighbouring Grounds, where in one Night's Time five or ſix Cows or Horſes, or a Flock of Sheep, may do twenty Pounds Damage; but this is not all, for Boys and others generally ſpoil a Hedge to come at the Fruit, as being encouraged thereto by this remote Planting, and free Acceſs.

And for theſe Reaſons it is, that many are ſo far from raiſing Trees (the Fruit Sort eſpecially) in Hedges, that they have deſtroyed great Numbers that have been found planted by their Predeceſſors. For I have known a Hedge, where of Sallow and White Thorn have growed without the Interruption of Trees, that forty Poles at nine Years End has returned four hundred Faggots, worth twelve Shillings a hundred.

Indeed where a Perſon is reſolved to multiply Wood in Hedges, and prefer his Fancy to his Intereſt, then I muſt confeſs that an Elm from its narrow Head that it may be kept to, either by the Cut of the Bill, or cloſe Planting, or from its ſmall Leaf, will do leſs Prejudice than many others. And likewiſe the Black Cherry-tree, by the Farmers in this Country, is deemed to do the leaſt Harm in a Hedge of any Fruit-Tree; becauſe the Drip of this gummy Tree is not ſo inſanous and venomous to its Underwood, as is the Aſh, Walnut, *&c.*

It is therefore that I have been induced to plant ſeveral Rows of Trees on graſs Baulks, or hedge Greens of ploughed Fields, within about ſix Foot of the Hedge; and that becauſe their Roots may the better enjoy the Virgin Mould under the Turf, and the Benefits of the Highway or Ditch, that in Time they may penetrate into, without any conſiderable Hurt to the Hedge from their Roots or Heads; here alſo they are more ſafe from the Rapine of Thieves; the Fruit more commodiouſly gathered; the Windfalls better ſecured, and the Cattle more conveniently lie and ſhade themſelves under their Boughs, to the great enriching of ſuch Trees by their Stale and Dung.

CHAP. VII.

The Nature and Improvement of the Black CHERRY, *&c.*

SEveral good Properties of this Tree having ſlipp'd the Knowledge and Notice of Authors both Ancient and Modern, I ſhall be the more ſingular in the Illuſtration thereof; and becauſe this

County of *Hertford* does certainly more abound in Plantations of the common Black Cherry Tree, than any other in *England*, and particularly the weſtern Part where I now live, is as famous for the black, as *Kent* is for the red or flemiſh Cherry; and this I can't do, I think, in a better Manner, than to inſert the Copy of a Caſe I drew up above a Year ſince on that Account, *viz.*

REASONS humbly offered in behalf of the Counties of Hertford, Bucks, Kent, *&c. for encouraging the Growth of the* Black *and other* Cherry Trees.

THAT by the late Act of Parliament for prohibiting the Conſumption of the Black and other Cherries, the ſaid Counties are miſerably diſtreſs'd; for that the Black Cherry in particular, having many ſingular Advantages belonging to it, is, by the Diſuſe of it in compound Liquors, render'd of little or no Service.

Whereas this Fruit is in itſelf of that healthful and cordial Nature, that it is a Corrector of ſeveral Sorts of Liquors, particularly in Moloſſes and Malt Brandies; alſo in Beer their Excellency is found, as well as in the wholeſome Wines, Syrups, and diſtilled Waters that are made of them, whoſe medicinal Qualities are beſt known to the Phyſician, Apothecary, &c.

The black, wild Cherry for many Years paſt have been a Sort of Harveſt, both to the Owner and the Poor; to the firſt, in that it is a Fruit that moſt opportunely precedes the Corn Harveſt, and thereby is of ſuch Conſequence to the Farmer's Intereſt, that it often returns Money enough to defray the Charge of Inning his general Harveſt; The latter are employed in gathering them as they ſucceſſively ripen, and ſo become a Subſiſtence for ſome Time to their poor Family.

The Higgler alſo that buys them, ſhares in their Advantage by turning the Penny at the *London* Market, where they are generally retail'd twice, and where the Diſtiller uſed to furniſh himſelf for making a Spirit from this Fruit, and correcting his Brandies by their ſalubrious Infuſions.

The Black Cherry in particular is alſo endowed with ſeveral beneficial Qualities; for it is a Wood that is next ſerviceable to the Oak, for the inſide Buildings of Houſes, Barns, *&c.* And becauſe of its long Duration and Strength, is of Service to the Commonwealth in general; and for its fine red Colour, which is encreas'd by letting it lie two or three Years on the Ground after it is cut down; and then it ſo neatly counterfeits Mohogony Wood, as hardly to be diſcerned in the Difference, both in its Grain and Colour, by the Help of a certain Liquor that the Joyner ſtains it with.

Again, this Tree of all others is the moſt common, and the eaſieſt introduced into our Woods and Plantations; here the Rooks, Jays, and other Fowl bring and eat the Cherry they collect at ſome Diſtance; the Stone whereof falling to the Ground in a moiſt ſhady Place, comes up ſpontaneouſly and better than if planted, and often thereby obtains a luxuriant Tap-root; from hence, as from a Nurſery, we are ſupplied with healthful, thriving Trees, which we plant upon our Commons, and in our Fields, in regular Rows, and there improve them by grafting and budding with Variety of the beſt Sorts, which of late ſeveral have been found to bear conſtantly on theſe Standards; as the May-duke, White-hart, Black-Orleance and the Morella; and this laſt, which is the lateſt of Cherries, has a peculiar Quality belonging to it; it is this that makes the moſt pleaſant Cherry

Brandy of all others by its Infuſion, even to come up very near to the Liquor called *Turkiſh* Viſney, that uſed to be ſold at *London* for twenty Shillings *per* Gallon; beſides, the Black Cherry Tree on a proper Soil, and when right planted, is of ſo quick a Growth, that we reckon it is at beſt in about forty Years, from the Time of tranſplanting.

And, but in the Year 1730, there happen'd many miſerable Inſtances of Diſcouragement, that this fine, uſeful Fruit met with; one being by a Tenant between *Chipperfield* and *Rickmanſworth* in this County, who paid in Part of his Rent twenty-five Pounds *per Annum* for his Cherry Plantation; and after having gather'd ſuch a Quantity as to loſe five Pounds by them, called ſeveral of his Neighbours to view the remaining Part left on the Trees; and, as I am told, they computed them to be about two thouſand Dozen, which he left to ſpoil, as not defraying the Charge of gathering: And near *Watford* there are ſome that have paid above thirty Pounds a Year to Cherry Gatherers (as I am credibly inform'd) and my very next Neighbour has received ten Pounds in one Seaſon clear of all Charges, for Black wild Cherries, though his Farm is worth but fifty Pounds a Year; and I can ſay, that I have ſold the Fruit only of one Tree for a Guinea, and the Buyer gather'd the Cherries.

And not a little has been the Cry of the Poor, as well as the Complaints of the Farmers; and I doubt not but thoſe Landlords who are concerned in Cherry Grounds will be more ſenſible of this, when their Rents ſink, which is now more likely than ever.

Theſe Trees we tranſplant out of the Woods at ſeven or eight Foot high, and about two or three Inches Diameter, in *October* or *February*, without their Heads, which forwards their making new Roots; ſo that the ſecond Year following (and ſometimes the firſt) about a Fortnight after *Midſummer*, we bud on their new Shoots, what Sort is liked beſt; by taking the largeſt Buds about an Inch in Length off the ſtrongeſt, upright Shoots, and with a very quick Slight, before the Sap is dry, put them into a little Inciſion of that Size firſt made in the Bark, like a reverſed ⊥, on which Nicety depends very much the good or bad Growth of the After-head; this we bind about with Yarn very exact, that all Parts of the Bud and Bark about it, may touch and receive a Communication of the Tree's Sap; then at a Month's End, we take the Thing very gently off; and about *Chriſtmas* after that, cut the new budded Shoot off, four or ſix Inches higher than the Bud, on the contrary Side, with a Slope that the Water may not deſcend on the Bud, which likewiſe muſt afterwards be kept free from all natural Shoots that will be ſure to make their Attempts.

There are many Sorts of Cherries, as the Kerroons, Orleans, Morella, Great-purple, Little-may, Crown, Cadilliac, Pomegranate, Carnation, Egriot, Merry, Cluſter, Spaniſh, Amber, Nonſuch, Naples, Biggarraux, King's, Prince-royal, Arch-duke, Common-duke, May-duke, Biquar, and Dwarf: The four Sorts of Harts, Lukeward and Gaſcoyn, beſides the Kentiſh or Flemiſh Cherry: Of all which Number, I only make uſe of the Kerroon, Orleans, Carnation, Kentiſh, the Harts, and the May-duke, and of them I think the Kerroon excels; this is a large, ſhining Black, with a leſſer Stone and more Fleſh than the Harts, will thrive in any Sort of our loamy Grounds in the Chiltern, and will beſt bear a long Carriage; but like the Beech, refuſes moſt Parts of the Vale, and ſo does all others that I know of, except the May-duke; that lovely, great, red Cherry, that comes early and bears conſtantly. Theſe budded Cherries are now vaſtly improved, not only in young, but alſo in old Trees, whoſe Heads are cut off about *Chriſtmas*, leaving a few Shoots or Boughs on, to draw up or employ the Sap (otherwiſe they often die) which the very next Summer will throw out new Shoots, that may the Summer following be budded to quick Profit, as I have done by ſeveral of my own that are now fine Trees. Of theſe improved Sorts, both young and old, I think I have between two and three hundred growing in my Fields, that annually require to have their Moſs rubbed off, and their Hoop-outward Bark juſt ſlit down with the Point of a Knife in *April*, ſo that the inner one be not wounded, leſt the Gum iſſue out, and the Tree die or pine; This is of ſuch Conſequence, that a Tree will grow in Bulk more in two or three Years when ſo ſerved, than in fifteen if let alone: But no hot Dungs muſt ever be uſed to the Roots of this Tree, for it is entirely contrary to the Nature of the Cherry, that always affects cold Soils more than warm ones.

Theſe, as well as ſome other Trees, ſometimes ſuffer by the Honey-dews in the latter Part of the Spring, and in Summer, by their falling on the Leaves, and there, by its corroſive Nature furls them up, and breeds the green and other Flies, that afterwards greatly hurt the Fruits of the Earth, and the Cherry in particular, and are called by the Country-folks *Ladlemen*, becauſe they hollow the Cherry by their bite, and cauſe it to fall; theſe and Caterpillars will ſometimes ſo feed on the very Leaves, that they will be almoſt eaten up. The beſt Cure for this is burning Straw under the Tree, or throwing or ſquirting a Quantity of Water on it. There is alſo another Blight, occaſioned by the eaſterly and other Winds in the Spring; theſe will ſometimes, by their frigid Potency, oblige the Leaves to turn yellow and fall off, ſo that the Tree will be almoſt naked as at the Approach of Winter; whereby the Bloſſom or Fruit often falls from the Tree, or grows ſmall and inſipid. Another Blight there is by the Vapour, Fogg, or Miſts that ariſe from low Grounds, that in the Spring are often fatal to the young Fruits; it was theſe that ſpoiled my Cherries this laſt Seaſon, 1732, that grew in my bottom Grounds, which lying more from the Sun's Influence than the Hills, the Froſts, and theſe by their long Continuance in this Situation, prov'd deſtructive to the Fruit, tho' ſo late as in the Month of *May*.

In ſhort, this Tree grows largeſt and quickeſt in Hedges, becauſe here its Roots meet with their deſired Shade, for this loves cool Places and cold Grounds. Its Fruit hangs but a little while on them, about half as long as Pears and Apples, and the Plenty of them in our Country hinders the Boys from ſtriving after them. —— They are difficult in taking the Ground on Tranſplantation, and more ſubject to Blights than Pears and Apples; and if a Blight ſucceeds two or three Years together it kills them. —— The May-duke, White-hart, and ſome other budded Cherry Trees, commonly bear ſo conſtantly, that it kills them in leſs than thirty Years.

◆

CHAP. VIII.

The Nature and Improvement of the Hornbean, *or* Hornbeech.

THIS is in great Reputation for both Copſe-hedge and Wood, and is planted in many Parts, but more abundantly about *Whethamſtead* in this County, for its ſeveral good Properties, *viz.* It is a Wood that will grow on poor, hilly, gravelly, and barren Grounds, and much more in a good Soil; but wherever it grows, it runs into fine, high, ſtrait Poles at a moderate Pace, and they very cloſe together, and is not of that pernicious Nature to kill his Under-neighbour by dripping on its Head; as Sallow, Aſh, Hazel, and Maple will, which makes this ſo advantageous both in Copſes and Hedges; for that a great Number of Stems will grow and flouriſh in a ſmall Quantity of Ground, and in Wood and Hedge will be fit to cut down in nine, twelve, or fifteen Years to good Profit.

Beſides, in a Hedge in particular, this Wood is, by a ſtrait, regular Plantation of it, no leſs ornamental than uſeful; for here its uniform, cloſe, and tall Growth makes it preferable about Walks, Gardens, Parks, and Fields, where it will carry its Leaves to the very Bottom: And here it makes a moſt noble Fence againſt the Treſpaſs of Cattle; for, in its Nature, nothing of Engliſh Woods excels it for Hardneſs, but the Box, Yew, *&c.* the Plaiſh of it being ſo ſtrong, that it will lie acroſs in a Hedge like a Rail, and not yield to the Efforts of Horſe nor Cow, as ſeveral of the afore-mentioned Sorts will, which renders its Poles of great

Uſe in Mills, ſmall Rafters, Heads of Beetles, and Frails, *&c.* and ſo far exceeds moſt other Fire-woods, that when it is burnt enough, the Coals will hold a bright Fire like Charcoal for a long Time.

I found a few Stems in a Copſe-wood that I bought fifteen Years ago, but they are not ſo plentiful here, neither in Stems nor Trees, as in ſome other Parts: However, our Neighbourhood now have begun planting the Sets in their Hedges at the Time of their making, and are moſt expeditiouſly raiſed by thoſe of an Inch Diameter; theſe may be alſo raiſed from their Seeds ſown in *October* or *November* (that are ripe at that Time) in ploughed Ground well manured, and in a fine Tilth, or in Furrows made in ſtrait Lines by the Plough at any Diſtance; or by putting their Sets in a Bank made by throwing up Mould out of a Ditch, in a ſingle or double Row almoſt cloſe together (for Hedges are ſeldom too thick as I can find) which will be an excellent Fence in Grounds of Corn, Graſs, or Wood; and by thus planting the Sets, four Years will be got in advance, for the Seed will not appear till the ſecond Spring after ſowing. Theſe Sets may be found at the Bottom of Stems, both in Woods and Hedges, and planted in *October*; if in Woods, their Side-ſhoots muſt be only pruned off, but not their Top; but in Hedges they ſhould be cut at Setting to ſix Inches in Length, for then they will grow thick; or to be more ſure of a ſtrong Fence, White-thorn may be made every ſecond Plant, as beſt enduring the Drip and cloſe planting of the Hornbean, and will, by its more ſhort Head, with the Help of an adjoining Ditch, ſo ſhade and moiſten its Roots, as to contribute not a little to its ſpeedy Growth.

The Seed in its Shape, Bulk, and Colour, is much like that of St. Foyn, and will hang in a

Hedge in a mild Winter till *Chriſtmas*. There are ſome of theſe Trees of a large Diameter in *Luton* Park, and in ſome other Places, preſerved as Pollard, but are of ſlow Growths they will grow under other Trees the beſt of any. It's reckon'd to pay double the Profit of the Hazel. It is much of the Nature of the Common Beech; for if it is kept abroad wet and dry it will rot in ſix Years.

* * *

CHAP. IX.

The Nature and Improvement of the LIME Tree.

THE Lime, or Lindon Tree grows very uniform in Rows to a great Bigneſs, where their Soil is a good Loam, or a Loam with a Clay Bottom, provided it is not in a wettiſh Place, for then it's apt to rot its Roots; or if it is a loamy Gravel, they will thrive very faſt, but not in a ſharp, hungry Sort, for that will ſtarve their Roots, nor in the dry, hot Sands; becauſe in the firſt Sort, where there is a ſtrong, ſound Bottom, they will hold their Leaves till *Michaelmas*, but in the two laſt, they'll complain and be yellow a Month or two before that Time. The Male and Female have different Productions; the Male has a ſmall Leaf, and a faſt, knotty Wood; the Female grows ſooner, its Leaves larger, and brings forth fine perfuming Bloſſoms in the Spring with reddiſh Shoots, that gives a ſtrong Invitation for its planting before Doors in Towns and Country, not only for Pleaſure but Health alſo, as being a very good Cephalick, and Aſſiſtant to the Nerves to thoſe that can enjoy enough of its delicious Scents.

It may be propagated by its Seeds, ſown directly from the Tree, the latter End of *October*, or preſerved in Sand and ſown in *February*; or it may be encreaſed by Layers, buried in the Earth with their young Shoots in *October* or *February*, as the Elm is; or tranſplanted in ſmall Sets taken from Roots of old Trees; or if they are larger, and of a Foot Diameter more or leſs, they will grow, provided the Heads are cut proportionable to the Roots; and this Caution affects all Trees whatſoever; for if the Head is left on when replanted, as was on it at taking up, it muſt not be expected that the ſame Roots will carry the ſame Head without languiſhing, if not dying entirely; becauſe in this new Situation, the Roots have hard Work to ſtrike in and naturalize themſelves; and therefore they ought to have the Help of a light Mould, the better to run into, a little or no Head, that the Roots may ſhoot the ſtronger, and tranſplanted preſently, that the Air dry not any of their Roots.

The Lime will not make proper Hedges for Fields, yet for Walks and Gardens it will anſwer very well in a cloſe and beautiful Growth, but beſt of all in fine Avenues, at twenty or forty Foot Diſtance, and then they will not only make pleaſant Walks, but alſo prove a noble Shade and Shelter from Blights and Severities of Weather; if planted on the Eaſt or North-ſide of a Houſe or Garden, as thoſe are in *Aſhridge* Park, where a long Row of tall Limes at ten Foot Diſtance now grow, that meaſures three Foot Diameter at Bottom, and were there firſt ſet in the Year 1660, on a loamy, high Ground, under which, about a Foot or eighteen Inches deep, is a red Clay.

This Wood is of a ſoft Nature, and therefore uſed by the Heel-maker, Carver, and ſome others.

* * *

CHAP. X.

The Nature and Improvement of the HORSE CHESNUT.

I Was acquainted with one that had formerly been a Gardener under Mr. *London* and Mr. *Wiſe*, and liv'd about a Mile from me, who about twenty Years ago put ſome of the Nuts of this Tree into Drills, or Holes, in a rich Garden Mould five Inches deep, a Foot aſunder, and in Rows a Foot apart; theſe, after two Years, were tranſplanted into a Nurſery, in Lines two Foot Diſtance, and about four Foot from one another, firſt cutting off their downright Tap-roots; here they remained till they were ſeven or eight Foot high, and then tranſplanted where they now are; ſome of them grow in a circular Manner at twelve Foot Diſtance, and encloſe a Piece of Ground where Carpenters work; the reſt were planted cloſe to Park Pales at ten Foot aſunder, to ſerve in Time inſtead of Poſts to ſupport and faſten them to; for this Wood like Aſh will ſuffer Mortaiſes in their Bodies without complaining, as all the Cherry and other gummy Sorts will; and altho' it is but twelve Years ſince their being fix'd for good, they ſome of them are now above eight Inches Diameter.

The Top or leading Shoot ſhould never be cut off in Standards, only ſome of the Side-ones juſt before they leaf, may be pruned away to keep their Heads thin, and ſo prevent the Wind's Damage, that is often fatal to ſome of the Arms of this ſpalt, brittle Wood that I have ſeen broke off, when almoſt all others have eſcaped. But where

Hedges of this are planted for Ornament, at four Foot Diſtance each Set, ſeveral of their upper Buds muſt be annually cut off with the Knife, and not the Sheers, to make them grow thick and ſtrong.

This Tree is of ſo quick a Growth, that it has been obſerved to ſhoot an Inch in Length in twenty-four Hours in all its Branches, which was proved by the aforeſaid Gardener, by tying a Stick even with the Twigg; but this faſt running is partly over after *April* and *May*. They will alſo grow to a large Bigneſs, as may be ſeen by thoſe in *Caſhiobury* Park. They'll proſper in our cold Country on dry Banks, and on Mould that have clay or gravelly Bottoms, but beſt in the richeſt Earth.

In Hedge or Standards, it is excellent to the Eye at the Spring, when its clammy, turpentine Bud breaks forth into curious, divided, hanging Leaves, and bear Cluſters of beautiful Flowers that perfume the ambient Air, and after that, a pleaſant Sight by their great brown Nuts.

The Fruit of this Tree which is ripe in *October* and *November* may be render'd ſtill more ſerviceable than it is. For by the Bitterneſs of its Taſte, the Deer and Swine does not care to eat it. To cure which, put them into an old Sugar or other Cask that is looſe jointed, and let it lye in a large Pond, or better in a River, two or three Days, and you will find the Water to have extracted their Bitterneſs, ſo that they will become an agreeable nutritious Food, both for Deer and Swine, *&c.*

I ſhall conclude this Subject with an Expreſſion from a *Swiſs* that I knew, who brought theſe Nuts in his Pocket at firſt from *Windſor*, that now are fine Trees; ſays he in *French*, *Je ſuis ſurpris quand je penſe que je porte touts ces Arbres a la fois dans ma Poche.* That is, It moves my Wonder to think, that I carried at once all theſe fine Trees in my Pocket.

CHAP. XI.

The Nature and Improvement of the Sweet CHESNUT.

THIS Tree grows well, but not ſo faſt as the Horſe Cheſnut; and is ſo much like the Oak in Sap and Heart, that it is hard to be diſtinguiſhed, and will anſwer to the ſame Purpoſe in many Things. The Laths alſo of this is ſold for the ſame Price as thoſe of Oak. A Barn of this Wood is now ſtanding, as I am informed, at 'Squire *Snell*'s near *Cony*, that have brought the very Carpenter under a Miſtake in his Gueſs. In *Aſhridge* Park, one of theſe Trees was felled about fourteen Years ſince, that out-meaſured all others there in its Diameter, and many of them are now growing in *Goſſumbury* Park by St. *Albans*, and at *Penly* near me.

In Copſes they will yield moſt fine tuff Poles, that ſerve for Hop-grounds, Fork-ſtales, *&c.* where if it be well looked after, will in about twenty Years get up to a ſmall Timber, and return a pleaſant ripe Fruit in *October*, that now-a-days are in much requeſt either roaſted or boiled, and eat alone, or with Pork as Potatoes are; and in ſeveral other Faſhions. It's a Tree that is very hardy, will grow on Mould with a Clay Bottom, or in ſandy or other Loams, in any cold bleak Place, where it will ſtand firm by its ſtrong Tap-Roots, and therefore may be made a Shelter againſt the North or Eaſt Winds, or planted in Avenues; and to have it thus anſwer, its Nuts ſhould be ſown or planted at the ſame Time, and in the ſame Manner as the Acorn is.

If in Copſes, then the Ground muſt be well manured and ploughed into a fine Tilth, and that into Furrows, at ſix Foot Diſtance, wherein may be put four or five Cheſnuts very near together; then at five Foot aſunder as many other Sort, and ſo forward, and at ſuch Diſtances may be put in Sollar-ſets, Aſhen-keys, and Hazel-nuts in *October* or *February*, firſt harrowed croſs-ways before the Sets are put in; by this Method they may be drawn and thinned, when at ſufficient Heights, leaving only the Maſter-ſhoot, and will grow if kept houghed very faſt, and be fit for felling in twelve Years Time, if the Ground is in good Heart; for it is this that governs the After-ſucceſs of this Tree, and the Cheſnut-poles, as well as good Planting and Cleaning; there may be alſo left, what Standard and at what Diſtance is thought fit, always carefully keeping the young Trees pruned cloſe to their Bodies, that their Heads may not ſhade nor drip on the Underwood too much; this Way is far beyond that artificial one, of keeping the Nuts in Sand, and planting in Spring, becauſe it is freed from the riſque of Spiring before the Nut is put into the Ground, and alſo from unnatural Tranſplantations; the Fruit is preſerved in dry, earthen Pots, kept very cloſe in a dry, cold Place.

The Sap of the ſweet Cheſnut Tree is whiter, the Heart browner, and the Grain broader than an Oak; by which three Signs, its known from the Wood of that Tree. This Sort of Cheſnut grows not quite ſo faſt as an Elm; but as faſt as an Aſh, and faſter than an Oak.

CHAP. XII.

The Nature and Improvement of the MAPLE.

THIS is a Wood frequently found in Copſes and Hedges, grows in moſt Soils, but beſt in dry Loams, Gravels or Chalks, and is, for its Lightneſs, Whiteneſs, and diaper'd Knots, excellent for many Uſes, well known to ſeveral Artificers.

In a Hedge it is accounted a brittle, ſpalt Wood, and apt to fly before the Ax or Bill, ſo that there is no ſuch Thing as making it in froſty Weather; but it has this good Property belonging to it, that it will grow with the leaſt Rind that is left to its Plaiſh or Hambend, of any other.

This Wood being of a light, ſoft Nature, is not ſo profitable to burn as ſome are. They are ſometimes made Pollards, but make a ſlow Return that Way; in Standards they ſeem to do better, becauſe they are not ſubject to thoſe Evils that the Pollard is; for this being a ſoft Wood, is apt to let in the Wets after their Toppings, whereby their Bodies often become rotten and hollow: But they anſwer the beſt of all in Hedges, becauſe they will here throw up great Numbers of encreaſing Shoots, and where they like, will keep Pace with the Sollar and Aſh.

This Wood is of more Value, than ordinary Woods are, for their diaper'd Knots and curled Grain, that have given it the Name of the Peacock's Tail; its white Colour and light Body alſo renders it a very commodious Sort for Stocks of Guns, Knife-handles, Inlaying, Muſical Inſtruments, *&c.*

&c. but with us, its chief Uſe is, in making Trench-Diſhes, Spoons, and ſeveral other curious Turner's Ware; and therefore it is, that the Bigneſs of its Body makes it more valuable, which is much hindred and kept back from the Time it is made a Pollard; nor ſhould it be trimm'd up of its Sides, for it is by theſe Side-ſhoots that its fine Knots are encreaſed, which made it in former Days in other Countries be more valuable than any other Wood for Tables, *&c.* which tempted the Ambition of great Men, to be more than ordinarily profuſe in the Purchaſe of thoſe Goods, and Conveniences that were made of it.

It is a Tree that does not much Damage by its natural Head, becauſe it is ſeldom very large, no more than its Body; two Foot being a good Breadth for this Country Growth, but in ſome Parts of the Vale they grow faſter and bigger than in our Chiltern; however, at beſt it is but a ſlow Grower in all the three Shapes of Standard, Pollard, and Stem; for which Reaſon, I think to ſtock up ſeveral of the latter in my ſpring Wood, to make Room for a more profitable Sort: And as to its beautiful White, and Scarlet Keys, I think they are more agreeable in Trees, or Hedges of Walks, or Gardens, where that Pleaſure is more valuable, than in Fields that are better furniſh'd by thoſe Sorts, which are far more profitable for Fencing and Fuel.

Where it has room, it exhauſteth the Ground very much, which makes it but a bad Neighbour to ſome others; it is propagated like the Aſh by its Keys and Sets, and at the ſame Time.

This Tree, beyond all others that I know of, will run out its Sap in Winter, and is a Sort of Almanack to the Hedger; when on cutting its Plaiſh in a Hedge, its Sap iſſues from it, and is a token to him, that froſty Weather will enſue; and even in a moderate Froſt, the Sap will come out, on being cut in any Part of its Body or Branches, and hang in Sicles. It has a very tough thick Bark, which makes me ſuppoſe the Sap in this Tree is kept warmer, and therefore thinner than in any other in cold Weather. It will grow under other Trees as well as any.

* * *

CHAP. XIII.

The Nature and Improvement of the HAZEL.

THE Hazel is a general Wood, both in Copſes and Hedges, and will grow in moſt Soils and Situations, but beſt in rich, loamy, and dry Grounds, It is certain they have their good and bad Properties as ſome others have; for Hoops, Rods, and Poles ariſe from the Hazel as well as Fruit; on the contrary, this Wood has its Inconveniencies, as growing hollow in a Hedge, and often lets Cattle through into others Grounds; it is not a very ſpeedy Grower, and often invites the Filcher to damage its Hedge, by getting the Nuts: It is alſo obſerved, that in five Plaiſhes, hardly one lives; and if the Hedge is not made in nine or twelve Years, the Bodies are apt to die, but it muſt never be made under nine.

This Wood grows leſs into Profit, becauſe it has not a very extenſive Root to make it anſwer, and therefore agrees beſt in Company with the Sallow, which likewiſe takes up but little Room in the Earth; and alſo with the Tap-rooted Sort, that runs deep into the Ground. The Gollins, or Catkins of the Hazel appear in *December*; and their little red Bloſſoms in *January*; the former is the Male-plant, and is to the Hazel as the Teſticles are to the Animal; the latter is the Female-part, and receives the Duſt of the Gollins that the Wind blows into them, by which the Nut is impregnated.

They are raiſed by Nuts, ſown when ripe, or in the Spring, after being kept the Winter in Sand, or by Suckers from the great Roots, as our Way is here, when we make a new Hedge or thicken old ones. About *Baconsfield* and *Uxbridge* there are great Plantations of Hazel, that return conſiderable Sums by their Sale to the Hoop-benders; and are alſo of vaſt Service to the Thatcher, by its Stretchers, Sprays, and Withs, which much expoſes it to the Rapine of Thieves. This reminds me of a Story of one, who having Occaſion for ſome Quantity of them, bid the Workman go about the Country and get enough for his Uſe; the Man went, but returning quickly, the Maſter ſaid, I hope you have not cut theſe out of my Wood; yes, ſays the Man, I did, becauſe I could not tell where to go better. There is alſo another Sort that I have met early in the Morning, with a large Bundle of about ſix Foot long Pieces, cut out of Hazel-poles in the Wood, which they clandeſtinely ſell; and for much ſuch a Reaſon, I was brought under a Neceſſity ſome Years ago to ſtock up one of my Copſe-woods, that grew near a publick Highway, half a Mile from my Houſe, and convert it into arable Ground.

The Kernel of the Nut is more pleaſant than wholeſome, as is too often experienc'd, eſpecially by the younger Sort; a ſad Inſtance of which had like to have been verified, in a Servant Boy about fourteen Years old, that then waited on the Rev. Mr. *Colemore*, now Rector of our Pariſh, who had eaten ſuch a Quantity, that two Phyſicians were conſulted, who ordered Quick-ſilver to be given him.

* * *

CHAP. XIV.

The Nature and Improvement of the FIRR Tree.

OF this Sort, there were ſeveral Rows planted about thirty Years ago on our Green or Common, at twenty Foot aſunder, that now, by the cloſe Growth and Cover of their Heads, make ſeveral delightful, ſhady, cool Walks in the hotteſt Time in Summer; and alſo a pleaſant Sight by their ever green Heads all Winter; theſe have got up thirty Foot high, and are eighteen Inches Diameter of Body: Here they flouriſh on a high, loamy Mould a Foot deep, under which is a red Clay: Alſo very near me, grows a fine Silver-firr before our Miniſter's Houſe, on the ſame Soil that was planted about forty Years ſince, and is now one of the higheſt Trees in theſe Parts of two Foot Diameter. This is a moſt faſt Grower in this Sort of Ground, and indeed in almoſt every other, even in the moſt Northern Parts of *Great Britain*, if its Roots have room enough, and its Head kept trimm'd up as it mounts in Height, which will greatly forward its Altitude: For it is certain, this and all other Trees grows ſooner and ſtronger, where they are free from the Encroachment of any other, and can enjoy a full diurnal Diſcharge of their crude Sap, by Force of the Sun and Air's Attraction; and not only this, but the whole vegetable Kingdom is highly improved, where its Subjects have a frank Opportunity of nocturnal Suctions and Imbibitions of the Aerial, Terrene, and Marine Salts, that both the Earth, Dews, and Water plentifully afford, where there is room for their Communication; and then the Wind will alſo have a full Power to ſhake their Heads, and looſen their Barks and Roots, whereby a natural Perſpiration will be the better promoted, which is one main Part of a Tree's Life, and more of its quick Growth; for by the Winds thus ſtraining the Bark, the Pores of that ſpungy Subſtance become more dilated and extended; whereby Tranſpiration of its crude noxitious Juices, receives a more free and open Paſſage, and eaſier room for their Evacuation; not only by this outward Coat, but alſo by its Fruit and Leaves, and that according as the Heat or Cold is more or leſs; for by the former, the Sap is prepared to perſpire away by rareſying and thinning its Juices; and it is the latter that cauſes a Condenſation, and thickens what remains in the ſmaller or larger Veins and Veſſels: Therefore it is a Query with me, whether the Trees imbibe and receive more and moſt Supplies by its Bark, than any other Way from the aqueous Air for the like Diſcharges afterwards. And it is a conſtant Maxim with the Woodward, that the greater and higher the Head is, the more the Trees thrive, for then the many Parts of its Body bark, as well as that of its Arms, Boughs, Branches, and numberleſs Twigs, are expoſed to the Potency of the Wind's Strength, that greatly relaxes and looſens the fibrous and ſtringy Parts of their ſeveral Barks and Roots, that beſt cauſe thoſe Recepts and Iſſues that Nature has ordained for their Health and Nouriſhment. I am very ſenſible, that in entertaining this Notion, I diſſent from the Opinion of ſome Authors, but I cannot go from the Query, when I conſider that the Heads of Trees are the moſt ſappy Part of them; which endows their Barks and moſt of their ſmall Bodies with ſuch hollow, ſpungy, ſoft Parts, as makes them fit Receptacles for their aerial, and aqueous, ſalubrious Subſiſtence; and that in the greateſt Summer Droughts, when all their heated and dried Parts often draw in, and more greedily receive ſuch Quantities of the nightly, dewy Effuſions, as ſupplies the Want of Rain for many Months together; and which makes a greater Lodgment on the Leaves and Barks, as they are more or leſs rough and ſpungy; for it may be obſerved, that the Rain does not run down the Oak and Elm, as it does the Beech and Firr: The Reaſon, I preſume, is, that the Imbibition is ſo great in the dented and hollow Bark, as ſtops its Currency, which on the ſmoother ones falls with more Velocity; and where the Bark is rougher, the Leaves in ſome are finer and narrower, as thoſe of the Oak and Elm are; and though the Moſs is an Excreſcence, and better off a Tree than on, yet while there, it has a ſtrong Retention of the Dews and Rains, by its velvet, ſhaggy Parts, and helps to communicate the ſame into the Body, and many Branches and Twigs; and to ſupply the Want thereof, we frote and rub the Bark with the Back of a Knife, Hair Cloth or otherwiſe, till it's dilated, opened and looſened, in order the better to take in and imbibe the Air and Water.

The Leaves alſo are contracted, and in ſome Meaſure furl'd up by the Sun's vehement Attraction, that by Night are expanded for the better Reception of the Dews; but whether it be the Leaves or the Bark that moſt receives the Air, Dews, and Rains, it is certain, they are both concern'd as Vehicles, to convey them to the Roots and many Veſſels appertaining to the Tree. And 'tis as true that there is a Moiſture in the freſh, open Air, that the ſpungy Parts of all Trees and

Plants imbibe and take in as Part of their proper Nouriſhment; and therefore, it is not the Juices alone that the Roots draw from the Earth that ſupports a Plant, but the Air alſo gives it a proportionable Help, elſe a Tree or Plant kept in a Houſe would ſubſiſt there; but the contrary is plain, that ſuch Plant or Tree would ſicken and die if confin'd from the freſh Air; ſo that though the Earth nouriſhes at the Root, 'tis the Air and Dews that help in a joynt Aſſiſtance to bring forth and carrry forward their Growth. This hardy, uſeful, and quick growing Tree, that ſeldom refuſes any Situation or Soil, except the hurlucky Chalks and dry Sands, may be propagated of its Seed that are got out of their hard, tough Branches, by being ſoaked in warm Water till they open, and then ſown in *March* in the Place where they are always to remain: But if they are to be ſown in a Nurſery firſt, and then tranſplanted, they may be order'd as other Seeds are, by raking them in, and covering them with ſifting Mould half an Inch thick over them, and in three Years Time they may be removed at Pleaſure, in *July* or *Auguſt*: However, at beſt this is but Male-management, and is never ſo agreeable to the Firr and Pine, as if they grow where this Seed was firſt ſown or ſet; and this I have wofully experienc'd in ſome Cherry Trees that I tranſplanted from Woods ſome Diſtance from me, which will never make good Trees: Firſt, Becauſe the Roots and ſmall Fibres were many of them broke and contuſed by the Mattock and Spade in taking up: Secondly, By the Air's drying the ſeveral Parts before I could get them replanted; and Thirdly, By the Rot and Canker that generally ovrtakes ſome of them before they can make their new Roots, whereby Part of their Veſſels muſt be conſequently prejudiced, and the Tree crippled in its Growth ever after.

Or the Seeds may be ſown broad Caſt on well manured and ploughed Grounds, and only harrowed in *October* or *March*; or in ſtrait Furrows made by the Plough at any Diſtance that is thought proper. And what encourages the Growth of this Tree, is, its being ready for Building in thirty or forty Years; and therefore, it's pity Plantations are not made of this Wood with all Expedition on many Eſtates, where they will grow beyond moſt others.

In *Scotland* they grow in ſuch Plenty, that the Sheep, *&c.* browſe on their young green Shoots, and on Loppings of old Trees in hard Weather, and prove a very ſweet healthful Food for them; and therefore I ſhould think it ſerviceable for Deer. This Tree yields a fine Reſin and Turpentine: A Perſon in the Summer-time drove a Shank-nail into one of their Bodies, and it run out two Quarts of Turpentine, from one of fourteen Inches Diameter. The *Chriſtiana* Deals are red hearted with ſome Sap; but the White Deals have never any Heart: Therefore, it is thought that theſe are them they tap for Turpentine. Turpentine like Oil preſerves Wood.

CHAP. XV.

The Nature and Improvement of the SYCAMORE.

THIS Tree is one of the ſoft, woody Tribe, and therefore grows faſter than thoſe, whoſe Bodies are more cloſe and hard. The biggeſt that have been known in theſe Parts, grew ſome Years ſince at 'Squire *Copping*'s at *Market-Street*, that meaſured above ſix Foot in its Diameter, and ſerved to encloſe a Piece of Ground by paleing, that its Boards made. It alſo is excellent for the Turner in making hollow Ware, Trenchers, and Spoons, by Reaſon of its great Whiteneſs and Lightneſs, and ſells to them generally for ſix Pence the ſolid Foot. It is a beautiful Summer Tree, as appears by its curious, large Boughs and Leaves, that afford a pleaſant Shade, and as fine a Sight, when the large Cluſters of its Seed makes their pendant Shows in Reſemblance of Grapes. It may be encreas'd by its Layers, Keys, or Sets. It is called a profitable Tree on account of its quick Growth to a great Body, and for its hardy Nature, as proſpering well on high, dry Grounds, and in moſt other Places, even in low Gravels.

CHAP. XVI.

The Nature and Improvement of the SALLOW.

THIS is more of the amphibious Nature in my Opinion, than any other of the aquatick Tribe; by Reaſon of its general Growth, either in low, watery Situations, or in high, loamy, gravelly Grounds: This is that which is ſaid to buy the Horſe before the Oak will the Saddle, and deſerves a longer Detail of its many valuable Properties, than this Opportunity will give me leave to ennumerate: It is this that will, beyond all others, ſuffer itſelf to be cut to Profit in a Hedge at four or five Years End; ſo that where it is planted with White-thorn (as it beſt is) it may be made twice to once of that: Here then the Farmer has three Crops of Hedge-wood in nine or twelve Years, and at the ſame Time enjoys the beſt of Fences; which is thus made, *viz.*

When the firſt Spit of Earth is thrown up, then plant on the ſame, about a Foot inwards towards the Field, the Sallow, or Salley Set, and bed its Roots well on all Sides; at the ſame Time cutting off the Head within four or ſix Inches of the Earth; then at four or eight Foot Diſtance plant another, and ſo on: Now on the outſide extream Part of theBank, White-thorn Sets muſt be planted with their Heads cut off in the ſame Manner, and after the ſame Length, in a direct ſingle Row, as cloſe as they can well be put; then throw up the reſt of the Mould on the Roots of both Sallows and Thorns, whereby they will be all cover'd, and a Ditch at the ſame Time made.

Another Way.

THrow up the firſt Spit of Mould in order to make a Ditch; on this plant a ſingle Row of White-thorn Sets, cloſe together, with their Heads cut off as before; then on the oppoſite Side lay in Truncheons or Sticks of Sallow, eighteen Inches, or two Foot Diameter long, and an Inch Diameter ſlopewiſe, cut at each End hollow like a Deer's Foot, the better to ſtrike its Roots at Bottom, and to carry off the Wets to them from the Top; ſo that the Roots of the Thorns, and the lower End of the Sallow Pieces will be near together in the Ground, but their Tops will be two Foot aſunder, by means of their lying in a contrary Slope; upon theſe throw the next Spit of Mould, then plant a ſecond Row of Thorn Sets on the firſt, and Earth them all over: By this Method there will be two Rows of Thorns, and a ſingle one of Sallow; and between them ſhould be a Hollow or Furrow made for the Reception of the Rain. Or after one or two Rows of Thorns are thus ſet, Holes may be made in the oppoſite Side, that an Iron Crow had juſt opened, wherein may be put the Pieces of Sallow ſlopewiſe, by which the Bark will be prevented ſlipping up, as it is very apt to do and die, when the Sticks or Cuttings are forced into the Ground of themſelves; and when the Sallows are thus buried, there ſhould only be left of them four or ſix Inches above the Earth, for the Shoots to come out at: This Hedge is beſt planted, and a three Foot Ditch made, in the Month of *October*, but may be alſo performed in any of the Winter Months if the Weather is open; and is the beſt Sort I ever ſaw; for by thus ſetting the Sallows at a due Diſtance, and more forward into the Field than the Thorns, the Workmen have room to cut them from off their ſeveral Stems without annoying the Thorns; ſo that they may be made twice in twelve Years.

But here I muſt obſerve, that there is an Objection made againſt the Practice of cutting the Sallows ſo often, becauſe, ſay they, the Roots will after this often cutting, puſh out with more than ordinary Vigour, and the ſooner wear out and die before their natural Time, according to the Proverb, *One may ride a free Horſe to Death.* To which I anſwer, That this Objection is not regarded by many Farmers; for that the Sallows being thus cut, the Thorns much better enjoy the freſh Air, free from the Drip and Shade of this taller Sort, whereby they have a more frank Perſpiration and Imbibition of the nouriſhing Dews and Air; and notwithſtanding this double Operation, the Sallows will get up and overtake the Thorns at the End of twelve Years; beſides, a Sallow of all others is the eaſieſt and quickeſt propagated; inſomuch, that if a Stake is drove into the Ground in any of the Winter Months, when it is not a Froſt, it is ſix to one odds if it does not grow;

ſo likewiſe, a ſmall Stick or Cutting of a Foot or two in Length will do the ſame, provided the Bark is not drove up at its Bottom, and it lies rightly in a looſe, proper Earth; for this, like all other Vegetables, beſt agrees with its prepared Mould, and that Soil as Nature has adapted it to; as the Oak on a Loam, the Beech and Walnut on that of a Chalk; the Cherry and Beech refuſes the Vale; the Maple and Hornbean affect a dry Ground; ſo the Sallow beſt loves a loamy Ground with a moiſt Bottom, though it will grow very well in loamy Gravels, and on any of the black, red, and white Clays; but the hurlucky, dry Chalks and Sands it doth not agree with, as being contrary to its ſappy Nature: Thus the Apprehenſion of wearing out the Sallow too ſoon is of no great Streſs, ſince they are ſo eaſily renewed; and alſo becauſe there is ſo ſeldom a Want of ſuch a Renovation; for I dare aſſert it for a Truth, by what I have heard and ſeen, that the Sallow Stem will endure fifty or more Years in a Hedge if rightly managed, by cutting off its Shoots cloſe, ſmooth, and ſloping at each Operation; otherwiſe it may be ſpoiled in half the Time; for this Wood being of the aquatic Family, is of a ſoft, ſpungy Nature, and therefore, will eaſily imbibe and let in the Wets at its Stump, if it is left ragged or level, and then enſues Rottenneſs and Deſtruction; nor ſhould it be cut too high, for that will hinder much of the Stems branching, and decay it the ſooner; ſo that as the Duration of this moſt ſerviceable Wood is valued, due Care muſt be taken at ſuch Times, to cut the Stem cloſe, ſloping, and ſmooth, that the Wets may not be able to make their Lodgments, and this every judicious Workman is appriſed of, and therefore, this Hedge in particular ſhould never be made by thoſe that are not Maſters of this uſeful Branch.

N 2

There is alſo another commodious Property belonging to ſuch a Hedge, that is, here is generally Wood enough to ſupply all Deficiencies that may happen from the Huntſman and others, whereby conſiderable Sums are oftentimes paid for Damages made by Cattle's breaking into others Grounds; or from the Weakneſs of thoſe Fences that are too often ſo ſlenderly made for want of Wood, that it becomes a Temptation to them to break through; and how important a ſtrong Fence is, every Chiltern Farmer muſt be very ſenſible of, that values his Money and Repoſe.

Such a Hedge beſt grows where there are no Manner of Trees planted in it; for it is theſe that often reduce good Hedges into bad ones, by their unnatural Drips on the Underwood, whereby in Length of Time they do more Harm than the Value of their Timber amounts to, eſpecially if they be Oaks, Aſhes, or Walnuts; theſe are ſo prejudicial to their lower Neighbours, both by their Roots and Heads, as to ſpoil their Growth by ſaturating and envenoming their Boughs by their Shade and Drip, and exhauſting the Goodneſs of the Ground about them. But I know that ſome are of Opinion, it is good Husbandry, when at the Time of planting a Hedge, young Beeches or Cherry Trees are ſet in for Standards, in order to cut down at twenty or thirty Years End, before their Heads are ſo enlarged as to damage the Hedge. I muſt confeſs that of ſuch Sort of Evils, this is the leaſt; becauſe the Hedge and the Trees being young, have both their Gradations of Growth in Proportion, ſo that the Hedge will become ſtrong, before the Trees acquire Head enough to ſpoil it by their Drip; and as to the Cherry Tree, it is a Sort that leaſt of all others hurts its Underwood by its Drip or Growth, which is owing, it is ſaid, to the Balſamick Nature of its Leaf and Branch; however, where none of theſe Trees are growing, there will be no Cauſe to complain of their greater or leſſer Prejudices; and where an entire Hedge of only White-thorn and Sallow is thus planted, there may juſtly be expected to grow one of the beſt of Fences, that will return the moſt Profit of any other.

There are ſeveral Sorts of Sallows, but it is the Land Sort that I have wrote on, that is very common with us, almoſt in every Hedge and Copſe, and will grow on our dry Lands: Another of them there is that delights in wet ſpewey Grounds, and is alſo a faſt Grower: The third has a Bark ſomewhat reddiſh, its Leaves leſſer and of a darker Green, and its red Wood very tough and durable. Theſe all of them run up very faſt, and turn to a conſiderable Profit in their Poles, that ſerve for making our Hurdles, Rails, ſmall Rafters, and many other Utenſils; and where it happens that one of theſe Sallows gets a Body of about a Foot Diameter, they are then red-hearted, as I have ſeen and uſed ſeveral, and will rend into Pales, *&c.* or if kept dry, is ſaid to laſt as long as Oak, which occaſioned the old Saying, *Be the Oak ne'er ſo ſtout, the Sollar red will wear it out.* But then it muſt be cut down before the large Worm takes it, that will ſometimes eat into the Pith and other Parts of the Tree, ſo that a little Finger may be turned in their Holes. There are ſeveral Standard Trees now growing of it in a Wood near me, I believe ſome of them are thirty Foot high; and there was one lately cut down that grew among ſome tall Beeches, ſaid to be ſixty Foot high, and fourteen Inches Diameter, on a Loam that had a Clay Bottom, where they endure much longer than in the Gravels.

The Sollars Stems will ſometimes produce ten or more Poles, eight or twelve Foot high, and are beſt cut down in Winter, for the Tap and Chair Turners Uſe as well as all others; but ſpecial Care muſt be taken that they are not cropt by any Cattle, for their ſoft, tender Buds are greatly beloved by them; if they are, their Poles are ſpoiled, and they will run into brouzy, ſpreading Heads.

In a Copſe or Hedge the Sallows may be thickned, by giving a Pole a Chop at Bottom, that it may eaſily bend to the Ground, where it muſt be kept forc'd down, by driving wooden Hooks in, and then cover it all over with Mould in the Nature of a Layer, leaving here and there an open Place for the Shoots to come out at as is mentioned in the Chapter of the Elm.

The Sallow has a Property belonging to it, different from moſt others, and that is, that the Gollin or Seed of this Wood is of ſo light a Body, that it is often carried by the Winds, and conveyed to ſome Diſtance, where in the Spring Time it falls in many Places, and produces young Sollars. An Example of which is in an eleven Acres Field, about a quarter of a Mile from my Houſe, laid down for an Oaken Wood about nine Years ago, by being ſown by Acorns; here there are great Numbers of Sallows, ſpontaneouſly come up from theſe Gollins, and ſome of them are now four Foot high.

In a Copſe, the Sallow is inferior to none, in its profitable uſeful Productions, where the Soil is a Clay or a loamy Earth; here it beſt grows amongſt the Oaks, ſweet Cheſnut, Cherry Tree, Hazel, and Hornbean, in Rows, at ſix or ten Foot aſunder; I mean, where the firſt three are to be left as Standards, at proper Diſtances, becauſe theſe Trees have Tap-roots, and ſeek great Part of their Food deep in the Ground; and the Hazel and Hornbean

bean takes up but a ſmall Circumference like the Sallow. Or if a Copſe was to be new made on ſuch Land, I think none can return a greater Profit, than if it was entirely furniſhed with this Sort of Wood, of which my Copſe and Hedges very much abound.

There is a Sort of Improvement to be made by the Sallow Stake of four Foot long, if rightly managed; and for this Purpoſe I ſhall put down the Notions of ſeveral of our Countrymen. One ſays, that the beſt Way is to cut a Sallow Stake at Bottom, ſloping it four or five Inches long, and leave the Rind carefully on the other Side; this muſt be cut a-croſs, and put a little Stone into the Slit and plant it. Another, that their Ends be ſoaked in Mudgel Ditch-water two or three Days, then cut them aſlope at Bottom, and prepare a Hole, by driving in another Stick firſt, to keep their Bark from ſlipping up. Another ſays, that theſe Stakes ſhould be cut juſt as the Sap begins to be in Motion, and planted directly as before.

In *December* laſt, I found a few Sallow Stems amongſt Hazels, and as the Hedge was making, the Workmen gave a Chop about half through the outer Bough at Bottom, and then bent it down cloſe to the Ground, letting its Head lie out to the Ditch-ſide; but the Body that was about four Foot long, they cover'd all over with Mould, except at the Stem, where 'tis expected to throw up ſeveral Shoots the next Summer, and the Body make ſeveral Roots. Thus a Sallow Hedge has the Advantage of moſt, I believe I may ſay of all others, for this Property, becauſe it may be thickned at Pleaſure, with Eaſe and Certainty in moſt Grounds; Beech and Hornbean will grow after this Manner; but not one in ſix of the Hazels will take; Aſh worſe, Maple and Whipbean not at all. The next Year after a Beechen Wood is cut down, the Ground generally throws out Abundance of Sallow Sets, that in three Years Time will be fit to pull and tranſplant.

* * *

CHAP. XVII.

The Nature and Improvement of the APS *or* APSEN.

NEXT to the Sallow, I have introduced the Aps, becauſe I take this to have a great deal of the Sallow's Nature, for tho' it is of the watry Tribe, yet it will proſper in ſome high Grounds, but beſt in low, moiſt Places, and on all Manner of loamy Lands; where, like the Firr, it will be fit to cut down in thirty or forty Years Time, which makes them beſt of all anſwer in Standards, ſeveral of them growing on our high Common, that have about a Foot Depth of Mould, and under that a red Clay; here they flouriſh and make a pretty Show by their trembling Silver-leaves, as ſome do in my Hedges that there grow as ſuch. They are certainly a very uſeful, profitable Tree, where the Soil is agreeable to their Natures, and run to a great Height and Bulk in a few Years, but refuſe ſharp Gravels, Chalks, and Sands. They are propagated in *October* or *February*, by Sets that muſt not have their Heads cut off, only their Side-ſhoots kept pinch'd off, that they may the ſooner get out of Cattle's Way. Their Uſes are many, in Boards, Somers, Joyſts, Chair-frames, Kiln-laths for the Malſters, and Pales for Parks: Some, for the Sake of its Whiteneſs and Lightneſs, make Trenchers of this Wood, but it is apt to taint, and give an ill Scent to the Meat.

In our Church-yard there are now growing one Aps, and ſix White-wood Trees that were ſet of ſtrait, ſingle Arms, put into the Earth upright and ſtaked well, within ſix Foot of a Hedge, in a Row at twenty Foot Diſtance, about thirty five Years ago; theſe meaſure about   Foot in their Bodies, which is but narrow to ſome of the ſame Sort, planted at the ſame Time, on the ſame Soil, before our Parſon's Houſe; but this is accounted for, when it's known that the former are under large, ſpreading Heads, that commence from within ſeven Foot of their Roots, ſo that the Sap was chiefly employ'd in making Branches, when the latter were more in Body than Head; becauſe they were kept trimm'd up in their Side-ſhoots to a great Height, and are thereby got near as thick again as the others: Now, neither theſe, nor any of the Aquatics are good Wood for Fire Uſe, by Reaſon of their great Spungineſs; and therefore, it's quite wrong to let theſe Trees grow more into Head than Body, unleſs there be a Demand for them by Way of Shelter for Cattle, or to break off Winds; for the Body is much more valuable to the Carpenter, than the Head is to burn.

The Aps and White-wood are ſo much alike in their Seeds, or Gollins, in their trembling ſilver Leaves, and the Colour of their Wood, that ſometimes they are not eaſily diſtinguiſhed; inſomuch, that ſome think the White-wood to be only the Female, and the Aps the Male. They are both very apt to run red-hearted, hollow, and decay at twelve or fourteen Inches Diameter, eſpecially in flat wet Grounds, if they are not cut down in Time; and will, if they are ſuffered to ſtand a great while, grow into a meer Shell. But in high, dry Ground, the Aps often grows ſound, as one did by me, of two Foot Diameter in its Body, fell'd from off the gravelly Top of a Hill which had a chalky Bottom. —— It makes good Bedſteads that will laſt hundreds of Years, if kept dry, but if wet and dry, as in Pails, &c. it rots in ſix. It is ſomewhat of the Deal Kind, but rather a firmer and whiter Wood; and therefore ſuperior to the Beech for ſeveral Uſes, becauſe that will rot even in a dry Chamber in a few Years.

CHAP. XVIII.

The Nature and Improvement of the WHITE-WOOD.

THIS Wood proves itſelf to be of the Species of thoſe aquatic Trees, the Poplar, Aps, and Abel, by affecting and quick growing in the moiſt Soils and low Grounds, where the Sallow, Willow, and others of the watry Tribe chiefly delight in. But this Tree ſeems to have eſcaped the Knowledge of all, or moſt Writers, which certainly is an Aquatic, and grows with great Expedition in Ground agreeable to its Nature, as is that of *Chedington* Farm, and many other Places in *Bucks*, which I found out, and help'd a Gentleman to the Purchaſe of. This is a Manor, and one of the beſt, large Farms in the Kingdom, for Goodneſs of Meadow, and Arable Land; and altho' in the Vale of *Ailesbury*, two Miles from *Ivinghoe*, there is a very high Hill belonging to it, containing many Acres of ploughed Ground; that is ſaid never was dreſs'd in the Memory of Man, and yet produces the beſt of all Sorts of Grain: On the level Ground of this Farm, amongſt White-thorn and

Sollar, grows ſeveral of theſe White-wood Trees, that, like the Poplar, hurts not its Underwood as many others do. And alſo about *Eton*, under *Dunſtable Downs*, where in both Places the Earth is of a black, fat, clayey Nature; here this runs up to a great Height and Bulk, one whereof had fifty Foot of Wood, in only ten Foot Length of the Ground End of its Body; and in the Head and other Parts, three hundred Faggots, and ſeveral Stacks of Fire-wood.

It is an ornamental Tree, when planted in Hedges, or in Rows for Walks, and affords pleaſant Views to the Beholders from its Silver-colour'd Leaves, and whitiſh, tall, ſtrait Body and ſhady Head: Nor is this Tree confin'd altogether in low Grounds, but will alſo thrive and proſper beyond many on high Hills of Clay Bottoms, as ſeveral do near me, or in ſtrong loamy Lands; but not in Chalks, ſharp Gravels, or Sands, and is very near the Nature and Make of the Aps.

This Tree is propagated by its Truncheon, Layer, or Set: The firſt, by being put ſlopewiſe into the Ground, the Beginning of *February*; the laſt, by bedding its Roots in good, freſh Mould, and carefully covering them therein, about the ſame Time, or in *October*; keeping the Head from its firſt planting, trimm'd annually up, that it may the ſooner be out of Harm's Way; but the Top-ſhoot muſt never be cut off.

I have ſeen ſeveral of theſe grow in one and the ſame Hedge where Elms did, but the White-wood got the Start by a vaſt Difference in Height and Bulk, and yet threw up great Numbers of young Shoots from their ſpreading Roots, that even the Cows, Horſes and Sheep did not keep down; but I ſuppoſe this was by Reaſon of the unpleaſant Taſte of the Shoot: In the Vale, this Tree will grow from the very Chips, as they prove by Shoots that ſucceed in the Place where the Faggots were made; but this Sort of Multiplication muſt not be expected, but in few Parts of the Chiltern, where the Ground generally is not ſo rich by far, as is that in the Vale; nor ſo looſe and hollow as to receive the Chip's Impreſſion. The low Country-men ſometimes call it *Dutch Arbel*, but the common Name among them is White-wood, from this Colour, that the Bark leaves, and Body retains, beyond all others that grow in this Nation; and therefore is preferr'd by the Vale-men for making beautiful Cupboards, Dreſſers, Flooring-boards, Somers, Rafters, Joyſts, and many more Uſes.

The Set is frequently put into new planted, or old made Hedges at every Pole Diſtance, for the Sake of its quick Growth in a fertile, ſoft Ground, where it is ſaid to outrun the Elm by ſix Degrees; as may be ſeen alſo at *Chedington*, on Mr. *Hudſon*'s Farm, who planted as many in his Life-time as are now worth one thouſand Pounds, and he has not been dead above three Years: Theſe, like the Aps, Poplar, *&c.* have a Seed or Gollin that hangs on the Tree, from the Beginning of *March* to the latter End of *April*; but the Set is chiefly made uſe of in theſe Parts.

And if any Gentleman has a Mind to propagate this Tree, they may be furniſhed by me, with theſe Sets, that I can ſo order from *Auguſt* to *April*, as that they will grow if ſent to any Part of *England* by the Carrier; and alſo with Oak, Beech, Aſh, Elm, Sollars, Hornbean, Thorn, or Holly-ſets; or with Acorns, Maſt, Keys of Aſh, or Maple, Seeds of Hornbean, and ſeveral other Sorts, provided I have timely Notice given me.

But here I would be underſtood, that the White-woods out-running the Elm ſo very faſt on this wettiſh, flat Soil, is no general Rule; for here they both grow in a Hedge, where the Elms have not that

Power to exert themſelves, as the White-wood has; by Reaſon here it enjoys its proper Food in a natural Manner from the wateriſh Earth about it, as being a true Aquatic, which the Elm is not; and this I prove thus: On a high Ground, about a Foot thick of Mould, and under that a red Clay in the Chiltern, grow both theſe Sorts not far off each other; where they are planted free from any other Invader of their Roots at proper Diſtances: Now here the Elm keeps Pace with it, as being in its more proper Soil and Situation than the White-wood.

Some lop the White-wood Tree in *November*, *December*, or *January*, for Firing, and at the ſame Time furniſh themſelves with Truncheons ſeven or eight Foot long, and three or four Inches Diameter, to ſet for Trees, by putting their Ends a Foot or two into the Earth which is the ſureſt Way of propagating this Tree throughout the Vale of *Aileſbury*, for raiſing a ſpeedy Profit by the ſame, and therefore reject the rooted Set.

* * *

CHAP. XIX.

The Nature and Improvement of the POPLAR *and* ABEL.

THeſe Aquatics are propagated by Suckers, Cuttings, or Truncheons; by Suckers, that may be bedded and planted in fine, hollow Mould in Copſes for Trees, in Rows ten Foot wide, and at twenty Foot Diſtance amongſt Oaks, Aſhes, Cheſnuts, and Cherry-trees, and Underwood of Hazels, Sallow, Hornbean, *&c.* where the Soil is Clay or Loam, proper for its Growth; and here it will anſwer very well, as one of thoſe Sort that ſeeks its Nouriſhment towards the top Earth, and be a natural Neigbour to the Oak, Walnut, Cheſnut, and Cherry-tree; by drawing a different Juice out of thoſe many Sorts that the Earth abounds with, whereby leſs Damage is done to the next Tree than if they were all of a Sort. By Truncheons, or Cuttings that may be buried in Banks, in watry, marſhy Places, or by Sides of Ponds or Rivers, where they muſt be put in at four, eight, or more Foot Diſtance, two or three Foot into the Ground, and about half a one out of it ſlopewiſe; but if Succeſs is expected this Way, their Bark muſt never be ſlipped up at their putting into the Earth: This is ſo much like the Aps, that there is not much Difference to be perceived; and theſe like them grow in our Woods, where the Ground has a moiſt Bottom; but they grow beſt in the watry Grounds, for here they have more Plenty of their natural Food, than on our high, drier Lands, and will arrive to a uſeful Bigneſs in twenty-five or thirty Years, that will ſerve their Purpoſes as the Aps will; for the Aps and Abel are both a Sort of Poplar, that grow equally faſt in tall, large Trees, and are alike encreaſed, and will ſuffer any Wood to thrive under them, without that Damage which moſt others will produce, becauſe it does not ſpread (if it is trimm'd up) like the Oak or Walnut; the Leaves alſo are ſmall, and commonly under ſuch a tremulous Motion by the Wind, that they have not Power to retain the Wets, that are often blown off from their high Heads, before it falls on his under Neighbour. For theſe Reaſons, it is a Pity that more of theſe Trees are not planted on our Loams, as well as in wetter Places; becauſe they bring on a ſudden verdant Sight and Shelter about Houſes and Gardens, as well as in wet Meadows and Marſhes, to a very great and expeditious Profit.

And altho' it is a Wood leſs ſerviceable to the Fire than ſome is, becauſe of its ſpungy, watry Parts, that abounds with leſs Salt and Sulphur than many others, yet that Defect is fully ſupply'd in the many Uſes that this Tree is converted to, eſpecially to the Chair-Turner, who willingly gives five Pence *per* ſolid Foot if it is ſound.

CHAP. XX.

The Nature and Improvement of the ALDER.

BEtween *Hemel*, *Hempſtead*, and *Watford*, in the low watry Meadows, and by the River that runs thro' them, grows the moſt Alder that ever I ſaw, in fine, long Hedges; where their large, high Poles ſhew themſelves in a beautiful Proſpect to the paſſant Travellers, and turns to a great Account amongſt the *Barkhamſtead* and *Cheſhunt* Turners of hollow War, who in that Commodity make more Conſumption of this Wood and Beech, than any other two Towns in *Great Britain*, as is allowed by good Judges; for with this Wood they make Diſhes, Bowls, and many other ſerviceable Goods, that are lighter and ſofter than the Beech or Elm, and will bear turning thinner than moſt others; ſo that to pleaſure Curioſity, a Diſh of it has been turned inſide out like a Hat; and of this, many of the Frames of the matted and other Chairs in *London* are made; as are Pattens, Clogs, and Heels of Shooes; Gates, Hurdles, and ſmall Rafters.

Its Wood is beſt in watry Foundations to build on, where it is ſaid to harden like a Stone, and the very ſmall heady Part will ſerve to lay in Trenches, that drain Land to keep it hollow for the Water to paſs; but inſtead of this, I uſed ſome large Flints that I put together Arch-ways, that anſwered compleatly to my Purpoſe, by holding almoſt as good now as at firſt, tho' it has been done theſe twelve Years, and the Carts are often drawn over it. Gun-powder is in Part made of its Coal, and the Bark formerly was uſed by the Dyers, which obliged the Owners to fell it in *April*, for then it would run beſt; but now it is not ſo much uſed this Way, becauſe they have latterly found out ſomething better that ſupplies its black Dye.

The Worm is very apt to get between the Bark of this Wood after it is fell'd, and then it is greatly damaged for the Turners Uſe; but to prevent it, the Owner takes Care to bark it in Time, for then it will bear keeping a long while, if it is not wet and dry, which rots it preſently.

There is a peculiar beneficial Property belongs to this Plant, for no Beaſt will crop it, be it young or old, which ſaves the great Charge and Trouble of fencing it after making. Their Propagation is the ſame as the Poplar, and where a Place is too wet for that, the Alder will flouriſh in high, bulky Trees, Pollards, or Poles, in Hedges; in ſhort, there is none of the aquatic Tribe will raiſe more Money and ſooner than the Alder, in wet, meadow Hedges, and in boggy, mooriſh Ground, nor make ſtronger, quicker Fences, than this excellent Plant will.

This Aquatic will thrive but poorly when raiſed from Truncheons, nor much better from the wild Set or Sucker that this produces but few of. But there is a Way to do this much more to the Purpoſe, and that is thus. Firſt prepare a Bed of well manured fine Mould; then put the full ripe Seed at a due Diſtance from the Fire, or in the Sun, and it will cauſe them to open like the Firr Pine-

Apple; then ſow the Seeds in the ſame, and you'll have Abundance of young Plants, that on ſetting out will be ſure to grow it rightly manag'd: At *Midſummer* cut away the ſmall Side Shoots of this Tree, and it will prevent their ſecond Growth; but if they are large, you muſt not do it, becauſe it will then make the Sap run out too much, and damage the Trees. This is of great Conſequence, for by ſo doing, the large Side Arms are prevented in their Growth, that often cauſes Knobs and Wens that leſſen the Value of their Wood.

CHAP. XXI.

The Nature and Improvement of the WITHY *and* WILLOW.

THIS Withy often arrives to a large Stature, eſpecially the red Sort, that delights to be planted in high Banks, as Mr. *Worlidge* ſays, where they will ſtrike their Roots deep into the Ground, by Ditch, Pond, or River-ſide; theſe, like the Willow, will alſo grow in clayey or loamy Grounds, either in Standards, Pollards, or in Hedges, and are in great Numbers about *Baldock*; where many of them are ſold to the Turners, for working out Diſhes and other hollow Ware; ſome of them meaſuring two Foot Diameter, will make Bowls as big as Buſhels.

They are of a very quick Growth, and in few Years obtain a red Heart, to their white Pitch or ſappy Part, that will ſell for ſix or eight Pence the ſolid Foot, and are propagated as the Sallow: The Willow eſpecially is very eaſily multiplied; by ſticking a Truncheon, or ſtraight Piece upright into the wet or moiſt Ground by Water-ſides, from two to ſeven Foot long; ſloping firſt the Ground like a Deer's Foot, and either the black, white, or yellowiſh Sort will make a ſpeedy Growth; but the Pieces ſhould be ſoaked in Water four Days, or a Week before they are ſet in *February*, from eight to twenty Foot Diſtance, keeping Cattle from cropping their Leaves; and alſo that their Side-Shoots be kept trimm'd up to the deſired Length, as well as their Suckers pull'd away in due Time.

If they are not deſigned for a Hedge, which is ſeldom done, the Pollard is of great Service in returning a Top at three or four Years End, that may be cut juſt before Winter, or in the Spring; and is of ſo great Uſe, that I have known it the only Wood they have in ſome Parts of *Rutland* in their open Fields; but it is ſeldom of longer Duration than twenty or thirty Years, by Reaſon the Wets are very apt to get in and rot its ſoft, ſpungy Body: Alſo in the Vale, where they have not the Hazels growing, the Willow is planted to ſupply it; for with their tough, long Shoots, they make their Withs for binding Faggots, and faſtening down the Straw in thatching of Barns and Houſes; this makes Hurdles, by their largeſt Shoots, that will endure much longer than the Sallow ones; beſides many Things in the Basket-makers Way.

❀ ❀ ❀

CHAP. XXII.

The Nature and Improvement of OZIERS.

THE Caſtle Gardener at *Barkhamſtead*, ſuffer'd a great Loſs in ſome of his Ground which he rented, that was conſtantly wettiſh, till he was adviſed to plant it with Oziers, and then it turned to a great Account. There are almoſt twenty Sorts of them, that may be encreaſed by Sets of four or five Foot high, planted at three Foot apart, in Ground well trenched before-hand, that is got hollow and fine; then at three or four Years End, in *February*, cut them to two or three Foot of the Earth, that they may get ſpreading Heads, and be fit for Uſe in *September* following.

They ſerve Abundance of Uſes, particularly Fiſher-men, Gardeners, Baſket-makers, and many others.

CHAP. XXIII.

The Nature and Improvement of White ELDER.

THIS, I believe, I may venture to ſay, is a new Chapter in Print, as well as the Black Cherry, Witch Elm, and White-wood, as being not wrote of in this diſtinct and ample Manner, by any Author before myſelf, as I know of; tho', in my humble Opinion, they deſerve the Preference to ſeveral others that have been more enlarged on, whoſe Uſes and Value are far ſhort of theſe excellent Trees: The firſt of the White Elder was introduced into theſe Parts, by the late curious *Simon Hartcourt*, Eſq; of *Penly*, from whom I had many Cuttings, that now grow in my Garden-hedge to a great Height, and to an Eaſt and Weſt Aſpect, by which it enjoys the Riſing and Setting of the Sun, that is more than ordinary neceſſary to the due Maturation of this Berry; becauſe, if they are not full ripe when gather'd, their Liquor will be ſpoiled; as I underſtand, a Hogſhead or two of their Wine was, by injudicious Hands; who ſeeing the Berries ripe on one Side, did not examine whether the other was ſo too; which cauſed their being gather'd too ſoon, and their Wine eager in a little Time: Whereas, if this Berry is gather'd in a dry Time, and full ripe, it has made a Wine, that has deceived a Gentleman I was in Company with, of great Judgment in many other Liquors; who took it for *French* Frontigniac, which it comes very near to, both in Taſte and Colour: But this cannot be done without a particular Ingredient that I had an Account of from Mrs. *Carbury*, the late Miniſter's Widow of *Ivinghoe*, who was the moſt famous for this Sort of Oeconomy of any in this Country, and which, with ſeveral different Receipts, among other ſerviceable Secrets, never yet printed, I intend, God willing, to publiſh as ſoon as I well can, if I am encourag'd thereto by ſuch as are Well-wiſhers to the Good of their Country.

This Plant then may be propagated very eaſily in Hedges, or as Standard Trees: Firſt by its Seed, after the Berries are ſqueezed; theſe may be thrown over a prepared Garden Bed, and cover'd with Mould half an Inch thick, and they'll come up the next Spring; after which they may be tranſplanted, till they arrive at a Bigneſs fit to plant out for good; or by cutting off a Foot or two long, put ſlopewiſe into a good hollow Ground or Bank, in *October* or *February*, which will come up the very next Summer, and grow a Foot or two in Length; but between each, a White-thorn Set ſhould be put with its Head cut off: Then it will become a ſtrong Fence, with the Help of a Ditch, for keeping out Cattle, and hold good many Years before the Elder kills it: This muſt be fenced in very ſecurely from the Crop of Beaſts, till it be got out of their Way, which it will do in about three Years Time, and bear plentifully of white Berries, that are generally bigger than the red, and ſuperiour to them in Wine, that now begins to be much made of them, but whether wholeſome I can't ſay; however, all Authors that have wrote of the Virtue of Elder, agrees, that this Tree is of a general Good to Mankind, in the Liquor of its Berries, in its Rinds, and in its Leaves; inſomuch, that I have heard it ſaid, if any one Tree deſerves the Regard of Men, this does, for its many Galenical, ſalubrious Uſes; and particularly (if Report is true) for its being a very good Drink in an Aſthma, *&c.*

And as the red Sort is now become ſo common, as to be ſold in its Juice at the *London* Markets, I do not doubt but this, in a little Time, will alſo become more univerſal, and be entertain'd as a moſt delicate, wholeſome, pleaſant Liquor at the greateſt Tables, even to ſupplant in ſome Meaſure the exceſſive Uſe of Tartarous Wines.

There is a potent Spirit made of theſe Berries, or the Red, by the Alembic, that will burn in a Lamp, if manag'd rightly in the Diſtillation; and alſo will ſerve in another excellent Uſe, which I intend hereafter to publiſh. And if any Gentleman or others, are deſirous to get Plantations of this white Sort, they may be furniſh'd by me, to moſt Parts, by the Opportunity of the *London* Waggons, having already ſent ſome in this Manner into *Somerſetſhire.*

CHAP. XXIV.

The Nature and Improvement of the PEAR TREE.

THIS Tree, on a Loam or Clay, is very long liv'd, even to two hundred Years or more, having ſo large a Pith, as to admit of the Loſs of its Bark for four or five Inches quite round its Body, as by Tryal has been proved on a Wall-tree to check its Sap, and make it bear the better. It generally carries three Years bearing Wood on it, and therefore beating it would make it barren ſeveral Years. It will thrive in poor gravelly Ground when an Apple-tree will pine away; becauſe its Roots are ſo ſtrong as to penetrate a ſoſt Rock, and is ſo fruitful, that ſome has born their Weight almoſt in Winy Liquor, even to four Hogſheads from one Tree, and one that I have heard of yielded ſeven. The beſt Perry is made from the wild choaky Pear, and requires a few Years to meliorate its Juice in the Cask to make it drinkable, and then it is an excellent, pleaſant, healthful Sort. Its Wood is worth nine Pence a Foot for the Hollow-ware Turner, or the Cabinet Maker, if cut down at a right Age. It may be propagated for a Wood, Hedge, or Standard Trees. If for a Wood, being of the Tree Kind, it will run very faſt into Poles or Underwood. The Seeds may be ſown in *October*, on Ground ploughed two or three Times before, and well manured; while it is rough ſow the Seeds, and harrow once in a Place both Ways. Or, you may ſow them with your Barley in *March*, which will rather ſecure their young Spires than damage them, and the Scythe will eaſily paſs over their low Heads.

FINIS.

BRITISH MUSEUM

BOOKS Printed for, and Sold by *J.* and *J. Fox*, at the *Half Mooon* and *Seven Stars*, in *Weſtminſter Hall*; and at their Shop at *Tunbridge-Wells*.

I. A Complete Collection of the Rules and Orders of the Court of Common Pleas at *Weſtminſter*, from *Michaelmas* Term 1654, incluſive, down to this preſent Time. Carefully examin'd by the Original Rules and Orders. By Mr. *William Watſon*, Treaſury-keeper of the ſame Court. With an Alphabetical Table to the Whole. Price 3s.

II. The Practiſing Attorney; or Lawyers Office. Comprehending the Buſineſs of an Attorney in all its Branches. Divided into two Volumes.

Vol. I. contains,

1. The Practice of the Court of King's Bench. 2. The Practice of the Court of Common Pleas. 3. The Practice of Courts-Leet, Courts Baron, &c.

Vol. II. contains,

1. The Practice of the High Court of Chancery. 2. The Practice of Equity in the Exchequer. 3. The Practice and Method of Conveyancing, &c. Wherein all the Precedents and Forms of Proceſſes and Proceedings are truly and faithfully rendred in the *Engliſh* Language, in Purſuance of the late Statute.

The Fourth Edition, in which the Errors in former Impreſſions are carefully corrected, many uſeful, modern, *Engliſh* Precedents, Rules of the Courts, and Acts of Parliament are added; and the Whole continued down to the preſent Year. By a Gentleman of the Inner Temple. Price 10s.

III. The Reports of Sir *Edward Coke* Kt. in *Engliſh*, in 13 Parts Complete: (With References to all the Antient and Modern Books of the Law.) Exactly tranſlated and compared with the Firſt and laſt Edition in *French*, and printed Page for Page with the ſame. To which are now added, the reſpective Pleadings in *Engliſh*. The Whole newly reviſed, and carefully Corrected and Tranſlated, with many additional Notes and References. In 7 Vols. Large Paper, 8vo. Two Pounds Ten Shillings.

IV. The Laws of Travelling. Price 2 *s.* 6 *d.*

V. Holy Rules and Helps to Devotion; in Two Parts: With Prayers before and after the Sacrament. By *Bryan Duppa*, late Lord Biſhop of *Wincheſter*, wrote in the Time of his Sequeſtration. Price 1 *s.*

> " He was a Man of excellent Parts, and every Way
> " qualified for his Function. He was beloved of King
> " *Charles* the Firſt, of bleſſed Memory, who made uſe
> " of his pious Converſation, during his Impriſonment
> " in the Iſle of *Wight*; and ſo much reſpected by his
> " Son, King *Charles* the Second, that when this wor-
> " thy Prelate lay on his Death-Bed, at *Richmond*, he
> " craved his Bleſſing on his bended Knees by his
> " Bed-ſide." *Wood*'s *Athenæ Oxonienſis.*

VI. The Devout Chriſtian's Companion: Part I. Being a complete Manual of Devotion, fitted for moſt of the Concerns of Human Life: With particular Offices for Sick and Dying Perſons. Price 2 *s.* 6 *d.* Part the II. Conſiſting of Fifty-two Practical Diſcourſes, upon the moſt fundamental Principles of the Chriſtian Religion, for every Sunday in the Year. Price 3 *s.* 6 *d.*

VII. The Chriſtian's Companion to the Cloſet and the Altar: Or, a plain Guide to a Spiritual Life, and a Bleſſed Death. In Three Parts. Price 2 *s.* 6 *d.*

VIII. *Charron* on Wiſdom. 3 Vols. Tranſlated by Dr. *Stanhope*. Price 15 *s.*

IX. *Martial*'s Latin Epigrams. *Delphini.* 8vo. Price 6 *s.* 6 *d.*

X. The London and Country Brewer; in Three Parts: Containing every Thing neceſſary to the perfect Underſtanding of the Brewery. Price of the Three Parts, 4 *s.* 6 *d.* ſtitch'd

XI. New Experiments in Huſbandry for the Month of *April*. By *William Ellis* of *Hertfordſhire*, Author of the Timber-Tree improv'd. Price 2 *s.*